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# NAVAL POSTGRADUATE SCHOOL

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## THESIS

AN ANALYSIS OF OBLIGATION PATTERNS FOR  
THE DEPARTMENT OF DEFENSE OPERATIONS  
AND MAINTENANCE APPROPRIATIONS

by

Mark Joseph Kozar

December, 1993

Principal Advisor:  
Associate Advisor:

Professor Joseph San Miguel  
LCDR Neil Seiden, USN

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94-07383



DTIC: 1994 MAR 07 1994

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86 3 4 1 2 3

Unclassified

Security Classification of this page

REPORT DOCUMENTATION PAGE					
1a Report Security Classification: Unclassified		1b Restrictive Markings			
2a Security Classification Authority		3 Distribution/Availability of Report: Approved for public release, distribution is unlimited			
2b Declassification/Downgrading Schedule					
4 Performing Organization Report Number(s)		5 Monitoring Organization Report Number(s)			
6a Name of Performing Organization: Naval Postgraduate School	6b Office Symbol: (if applicable) 136	7a Name of Monitoring Organization: Naval Postgraduate School			
6c Address (city, state, and ZIP code): Monterey CA 93943-5000		7b Address (city, state, and ZIP code): Monterey CA 93943-5000			
8a Name of Funding Sponsoring Organization	8b Office Symbol (if applicable)	9 Procurement Instrument Identification Number			
Address (city, state, and ZIP code)		10 Source of Funding Numbers: Program Element No. Project No. Task No. Work Unit Accession No.			
11 Title (include security classification): AN ANALYSIS OF OBLIGATION PATTERNS FOR THE DEPARTMENT OF DEFENSE OPERATIONS AND MAINTENANCE APPROPRIATIONS					
12 Personal Author(s): Kozar, Mark J					
13a Type of Report: Master's Thesis		13b Time Covered: From: To:	14 Date of Report (year, month, day): December 1993		15 Page Count: 156
16 Subject Terms (outline or reverse if necessary and identify by block number): Operations and Maintenance obligations, end of fiscal year spending, wasteful spending					
17 Cessai Codes					
Field	Group	Subgroup			
18 Abstract (outline or reverse if necessary and identify by block number): Present appropriation accounting systems are one of the top seven problems facing the Department of Defense according to Deputy Secretary of Defense William Perry. As part of the process of evaluating the potential benefits of a proposed single year accounting system, this research study analyzes obligation patterns of the DoD's Operations and Maintenance (O&M) appropriations between fiscal years 1977 and 1992. Although trends for the entire fiscal year are discussed for 11 appropriations, the analysis focuses more attention on the increase in obligations during the fourth quarter and the reasons for this surge. The patterns and particularly the peak in obligations near the end of the fiscal year, are assessed in terms of the incentives provided to managers by the current laws and policies governing the obligation of appropriated funds. Finally, the single year accounting system is presented as a means to possibly change the present incentive structure.					
19 Distribution/Availability of Abstract: <input checked="" type="checkbox"/> unclassified <input checked="" type="checkbox"/> unlimited <input checked="" type="checkbox"/> same as report <input type="checkbox"/> DTIC users			20 Abstract Security Classification: Unclassified		
21a Name of Responsible Individual: Professor Joseph San Miguel			21b Telephone (include area code): (408) 656-2187	22a Office Symbol: AF/SIM	

DD FORM 1473.84 MAR

83 APP edition, 10-83, used until exhausted

All other editions are obsolete

Security Classification of this page

Unclassified

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**An Analysis Of Obligation Patterns For  
The Department Of Defense Operations  
And Maintenance Appropriations**

by

**Mark Joseph Kozar  
Lieutenant, United States Navy  
B.S., United States Naval Academy, 1987**

Submitted in partial fulfillment  
of the requirements for the degree of

**MASTER OF SCIENCE IN FINANCIAL MANAGEMENT**

from the

**NAVAL POSTGRADUATE SCHOOL**

December 1993

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## ABSTRACT

Present appropriation accounting systems are one of the top seven problems facing the Department of Defense according to Deputy Secretary of Defense William Perry. As part of the process of evaluating the potential benefits of a proposed single year accounting system, this research study analyzes obligation patterns of the DoD's Operations and Maintenance (O&M) appropriations between fiscal years 1977 and 1992. Although trends for the entire fiscal year are discussed for 11 appropriations, the analysis focuses more attention on the increase in obligations during the fourth quarter and the reasons for this surge. The patterns, and particularly the peak in obligations near the end of the fiscal year, are assessed in terms of the incentives provided to managers by the current laws and policies governing the obligation of appropriated funds. Finally, the advantages and disadvantages of the single year accounting system are presented as a means to possibly change the present incentive structure.

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## TABLE OF CONTENTS

I.	INTRODUCTION	1
A.	BACKGROUND	1
B.	OBJECTIVES	2
C.	RESEARCH QUESTIONS	3
D.	SCOPE AND LIMITATIONS	4
E.	ORGANIZATION OF THE STUDY	7
II.	BACKGROUND	8
A.	THE APPROPRIATION PROCESS	8
B.	OPERATIONS AND MAINTENANCE APPROPRIATIONS	11
C.	SINGLE YEAR ACCOUNTING SYSTEM	13
D.	PAST O&M RESEARCH	17
III.	METHODOLOGY	19
A.	DFAS OBLIGATION DATA	19
B.	OBJECT CLASS DATA	21
C.	CONGRESS AND OMB	26
IV.	DATA ANALYSIS	28
A.	DEPARTMENT OF DEFENSE TOTAL O&M OBLIGATIONS	28
B.	DEPARTMENT OF THE NAVY	30
1.	Annual Obligation Patterns	31

2. United States Navy O&M Obligation Patterns . . . . .	32
3. United States Marine Corps O&M Obligation Pattern . . . . .	35
4. Fourth Quarter Obligation Limits . . . . .	38
5. Element of Expense Data . . . . .	40
C. DEPARTMENT OF THE AIR FORCE . . . . .	45
1. Annual Obligation Patterns . . . . .	45
2. Fourth Quarter Obligation Patterns . . . . .	48
3. Object Class Data . . . . .	51
D. DEPARTMENT OF THE ARMY . . . . .	55
1. Annual Obligation Patterns . . . . .	55
2. Fourth Quarter Obligation Patterns . . . . .	58
3. Object Class Data . . . . .	61
E. DEFENSE AGENCIES . . . . .	65
F. SUMMARY . . . . .	67
 V. EXPLANATIONS FOR END OF FISCAL YEAR OBLIGATION SURGES . . . . .	69
A. APPLICATION OF O&M APPROPRIATIONS . . . . .	70
B. ANTI-DEFICIENCY ACT . . . . .	71
C. INCENTIVE TO SPEND . . . . .	72
D. ADDITIONAL FACTORS . . . . .	76
E. QUARTERLY OBLIGATION PATTERNS . . . . .	80
 VI. CONCLUSIONS AND RECOMMENDATIONS . . . . .	83
A. CONCLUSIONS . . . . .	83

B. RECOMMENDATIONS . . . . .	89
APPENDIX A: OBLIGATION DATA . . . . .	96
APPENDIX B: MINITAB OUTPUT . . . . .	109
APPENDIX C: OMN ELEMENT OF EXPENSE DATA . . . . .	134
REFERENCES . . . . .	143
INITIAL DISTRIBUTION LIST . . . . .	145

## LIST OF FIGURES

Figure 4.1: DoD Average Monthly O&M Obligations as a Percentage of Budget Authority . . . . .	29
Figure 4.2: DoD Average Quarterly O&M Comparison . . . . .	29
Figure 4.3: O&M Navy Average Monthly Obligations as a Percentage of Budget Authority . . . . .	32
Figure 4.4: O&M Navy Average Quarterly Comparison . . . . .	33
Figure 4.5: O&M Navy Reserve Average Monthly Obligations as a Percentage of Budget Authority . . . . .	34
Figure 4.6: O&M Navy Reserve Average Quarterly Comparison . . . . .	35
Figure 4.7: O&M Marine Corps Average Monthly Obligations as a Percentage of Budget Authority . . . . .	36
Figure 4.8: O&M Marine Corps Average Quarterly Comparison . . . . .	36
Figure 4.9: O&M Marine Corps Reserve Average Monthly Obligations as a Percentage of Budget Authority . . . . .	37
Figure 4.10: O&M Marine Corps Reserve Average Quarterly Comparison . . . . .	38
Figure 4.11: O&M Air Force Average Monthly Obligations as a Percentage of Budget Authority . . . . .	46
Figure 4.12: O&M Air Force Reserve Average Monthly Obligations as a Percentage of Budget Authority . . . . .	46

Figure 4.13: O&M Air National Guard Average Monthly Obligations as a Percentage of Budget Authority . . . . .	47
Figure 4.14: O&M Air Force Average Quarterly Comparison . . . . .	49
Figure 4.15: O&M Air Force Reserve Average Quarterly Comparison . . . . .	49
Figure 4.16: O&M Air National Guard Average Quarterly Comparison . . . . .	50
Figure 4.17: O&M Air Force Personnel Compensation . . . . .	52
Figure 4.18: O&M Air Force Other Services . . . . .	53
Figure 4.19: O&M Air Force Supplies and Materials . . . . .	53
Figure 4.20: O&M Army Average Monthly Obligations as a Percentage of Budget Authority . . . . .	55
Figure 4.21: O&M Army Reserve Average Monthly Obligations as a Percentage of Budget Authority . . . . .	56
Figure 4.22: O&M National Guard Average Monthly Obligations as a Percentage of Budget Authority . . . . .	56
Figure 4.23: O&M Army Average Quarterly Comparison . . . . .	58
Figure 4.24: O&M Army Reserve Average Quarterly Comparison . . . . .	59
Figure 4.25: O&M National Guard Average Quarterly Comparison . . . . .	59
Figure 4.26: O&M Army Other Services . . . . .	62
Figure 4.27: O&M Army Supplies and Materials . . . . .	63
Figure 4.28: O&M Army Equipment . . . . .	63
Figure 4.29: O&M Defense Agencies Average Monthly Obligations as a Percentage of Budget Authority . . . . .	65

Figure 4.30: O&M Defense Agencies Average Quarterly Comparison . . . . . 66

## LIST OF TABLES

TABLE 1.1: FISCAL YEAR 1992 APPROPRIATION FUNDING . . . . .	6
TABLE 2.1: DOD APPROPRIATION ACT DATES PASSED . . . . .	10
TABLE 3.1: OBJECT CLASSES . . . . .	22
TABLE 3.2: ELEMENTS OF EXPENSE . . . . .	25
TABLE 4.1: DEPARTMENT OF THE NAVY AVERAGE QUARTERLY OBLIGATIONS AS A PERCENTAGE OF BUDGET AUTHORITY . . . . .	31
TABLE 4.2: O&M OBLIGATIONS DURING THE LAST TWO MONTHS OF THE FISCAL YEAR FOR THE DEPARTMENT OF THE NAVY . . . . .	40
TABLE 4.3: DEPARTMENT OF THE AIR FORCE AVERAGE QUARTERLY O&M OBLIGATIONS . . . . .	48
TABLE 4.4: O&M OBLIGATIONS DURING THE LAST TWO MONTHS OF THE FISCAL YEAR FOR SELECTED AIR FORCE APPROPRIATIONS . . . . .	51
TABLE 4.5: O&M AIR FORCE FOURTH QUARTER OBJECT CLASS DATA . . . . .	54
TABLE 4.6: DEPARTMENT OF THE ARMY AVERAGE QUARTERLY O&M OBLIGATIONS . . . . .	57
TABLE 4.7: O&M OBLIGATIONS DURING THE LAST TWO MONTHS OF THE FISCAL YEAR FOR SELECTED ARMY APPROPRIATIONS . . . . .	60
TABLE 4.8: O&M ARMY FOURTH QUARTER OBJECT CLASS DATA . . . . .	64
TABLE 4.9: DEFENSE AGENCIES O&M OBLIGATIONS DURING THE LAST TWO MONTHS OF THE FISCAL YEAR . . . . .	67
TABLE 6: END OF FISCAL YEAR OBLIGATION SURGES . . . . .	84

## I. INTRODUCTION

### A. BACKGROUND

Since 1986, the Department of Defense's (DoD) fiscal constraints have tightened yearly. As a result, the DoD continually focuses on finding better means to use and account for scarce budget dollars. Recently, Deputy Secretary of Defense William Perry identified the DoD accounting systems as one of the top seven problems facing DoD [Ref. 1]. Present appropriation accounting systems have been characterized as inefficient, unreliable, and as providing the wrong incentives to DoD managers.

To help solve this problem, the DoD Comptroller Office is investigating alternative Operations and Maintenance (O&M) accounting policies and management practices designed to improve the efficient obligation of O&M funds. One proposal is the single year accounting concept discussed in Chapter II. If pursued, this system would require radical changes to the laws governing appropriated funds.

Critics of the Department of Defense (DoD) have claimed that DoD managers waste appropriated funds trying to use all funds in a fiscal year. In fact, the General Accounting Office identifies a few specific examples of programs and commands where funds can be used more effectively every

year. These concerns serve as the foundation for Congress, the Office of Management and Budget (OMB), and DoD to regulate end of fiscal year spending. These organizations want the most efficient and effective use of scarce budget dollars. Thus, laws and regulations are intended to provide guidance and incentives to DoD managers to more effectively and efficiently use appropriated funds.

In particular, the obligation of O&M funds receive close scrutiny. Discussed in more detail in Chapter II, these appropriations finance the day-to-day operations of the military including such items as supplies, maintenance, and civilian pay. In fiscal year 1992, the O&M appropriation accounted for \$84.67 billion of the \$270.39 billion in the DoD Appropriation Act. This is 31.3% of the total budget authority in the Act. In an era of downsizing the military, large appropriations such as O&M will continue to receive close attention and scrutiny.

#### **B. OBJECTIVES**

The purpose of this research is to analyze O&M spending trends for the active, reserve, and guard forces of the Military Departments and the Defense Agencies. Obligation data analyzed in this research include fiscal years 1977 through 1992. The research will help determine whether the cases of wasteful spending identified by various audit agencies suggest possibly inefficient and ineffective

obligation of funds in the broad and general spending patterns of the O&M appropriations.

The Office of the DoD Comptroller is especially concerned with the obligation of funds during the last quarter of the fiscal year. This study will conduct an analysis of the spending trends of eleven O&M appropriations to be provided to the DoD Comptroller. As background analysis, information needed by the DoD Comptroller for proposing changes to the present laws, accounting regulations, and management practices for the O&M appropriations is provided. The analysis of the spending trends for the Military Department's ten O&M appropriations and the collective Defense Agencies' O&M appropriation will identify if a problem truly exists with excessive end of fiscal year spending. If so, the analysis provides a basis for exploring alternatives for changing existing practices.

#### **C. RESEARCH QUESTIONS**

Critics of the DoD claim that appropriated funds are wasted by DoD managers when they rush to obligate all available funds before the end of the fiscal year. Do the DoD managers truly have an incentive to waste O&M funds as the critics claim, or are DoD managers utilizing funds as best they can for essential goods and services? The primary research question stems from this dilemma.

What are the DoD management incentives resulting from the annual O&M appropriations and related laws and how do they impact budget execution in the DoD?

Subsidiary research questions supporting this analysis are listed below.

How are these incentives reflected in the actual obligation patterns for the O&M funds between fiscal years 1977 and 1992?

How do present OMB and congressional rules, policies, and laws influence the spending patterns?

How do the spending patterns during the last quarter of the fiscal year compare to other quarters?

Are spending increases before the O&M appropriation expires at the end of the fiscal year significant monetarily? What classes of goods and services are purchased at the end of the fiscal year?

Do spending patterns differ between the military departments?

Finally, what are the advantages and disadvantages associated with the present system used to control the obligation of O&M funds?

#### **D. SCOPE AND LIMITATIONS**

This research analyzes DoD component level O&M obligation data for fiscal years 1977 through 1992. The Defense Finance and Accounting Service (DFAS) and the Navy,

Army, and Air Force Comptroller Offices provided the obligation data for the O&M appropriations. Obligation data provided by DFAS for fiscal years 1977 through 1990 is organized by appropriation account. The Air Force and Army provided obligation data classified by object class for fiscal years 1981-1992 and 1982-1992 respectively. Element of expense obligation data was provided by the Navy for fiscal years 1988-1992.

The data analysis includes the ten O&M appropriations for the Military Departments and one appropriation for the Defense Agencies as a whole. Since the research is based on the percentage of budget authority obligated each month or quarter during the fiscal year instead of dollars, examples of actual O&M funding levels from the 1992 DoD Appropriation Act are included in Table 1. This information is intended to give the reader an understanding of the relative magnitudes of the appropriation accounts included in the research.

Most of the analysis focuses on the Navy, Marine Corps, Army, Air Force, and Defense Agencies O&M appropriations. These five appropriations account for approximately 90 percent of the total O&M funds each fiscal year.

The research analyzes obligation patterns with respect to the DoD manager's incentives that result from congressional and OMB policies and laws. This research assesses the effect of these laws on the spending patterns

over the entire fiscal year and focuses increased attention on spending during the last quarter of the fiscal year.

TABLE 1.1  
FY 1992 O&M APPROPRIATION FUNDING

APPROPRIATION TITLE	APPROPRIATION CODE	FUNDING (MILLIONS)
Defense Agencies	0100	\$16,408
Marine Corps	1106	\$ 1,892
Marine Corps Reserve	1107	\$ 81
Navy	1804	\$21,079
Navy Reserve	1806	\$ 825
Army	2020	\$17,722
Army Reserve	2080	\$ 968
Army National Guard	2065	\$ 2,125
Air Force	3400	\$17,180
Air Force Reserve	3740	\$ 1,078
Air National Guard	3840	\$ 2,281
Totals		\$81,638

Source: DoD Appropriation Act, 1992

Finally, the analysis is concerned with the general spending trends for the eleven appropriations mentioned above. The data provides only minimal evidence concerning the impact of present laws and policies on specific field activity or individual unit obligation trends. The research is concerned with macroscopic O&M funding, not funding for a particular base. It is not intended to be a critique of individual commands.

## **E. ORGANIZATION OF THE STUDY**

Chapter II discusses the background of the study. The appropriation process, past studies of O&M obligation patterns, and the circumstances leading to this study are discussed in detail.

Chapter III describes the methodology of the study and the data collected during the study. This is followed by a chapter dedicated to the analysis and interpretation of the data.

Chapter V discusses the incentives provided to DoD management from the annual O&M appropriations and the related laws. It explains the obligation patterns documented in Chapter IV as they relate to the incentives. Finally, Chapter VI presents the conclusions and recommendations.

## II. BACKGROUND

This chapter includes four sections relevant to understanding O&M appropriations and this research. The first section gives a brief discussion of the appropriation process that creates the O&M appropriations. Next, general information about the O&M appropriations is presented. The third section explains the single year accounting system and its advantages over the present system. The chapter concludes with a section on past O&M research.

### A. THE APPROPRIATION PROCESS

Two major steps occur in the congressional defense budget process before the appropriation process. First, Congress passes the Concurrent Resolution on the Budget. The budget resolution establishes revenue targets and ceilings for budget authority and outlays for the National Defense Function and all other major budget functions. Congress establishes the budget resolution as a major step in the budget process in part to help set national budget priorities. [Ref. 2]

The House and Senate Budget Committees report the budget resolution to their respective chambers of Congress including a recommendation on funding for the National Defense Function [Ref. 3]. Congress is required to pass the

budget resolution by April 15 each year. They may not act on the Authorization bill before the passage of the budget resolution.

The second major step in the defense budget process is the passage of the Department of Defense Authorization bill. Authorization bills provide the legislative authority for a government agency to establish a program [Ref. 4]. The Authorization bills, reported to Congress by the House and Senate Armed Services Committees, state the level of funding for programs or agencies but they do not actually provide budget authority.

The next phase in the congressional defense budget process is the appropriation process, which creates budget authority (BA) to fund the authorized programs [Ref. 3]. Although there is no legal deadline for Congress to pass the Department of Defense Appropriation Act, ideally Congress should pass the legislation before the start of the fiscal year on October 1. As shown in Table 2, this rarely happens. In the fourteen fiscal years studied in this report, the Department of Defense Appropriation Act was signed into law only three times before the start of the fiscal year: 1977, 1978, and 1989.

Continuing resolutions provide interim funding for DoD when the DoD Appropriations Act is not passed before the start of the fiscal year. They usually provide funds for agencies at the same rate as the previous fiscal year.

TABLE 2.1  
DoD APPROPRIATION ACT  
DATES PASSED

FISCAL YEAR	PASSED HOUSE	PASSED SENATE	SIGNED INTO LAW	CONTINUING RESOLUTION
1977	Sept 9	Sept 13	Sept 22	
1978	Sept 8	Sept 9	Sept 21	
1979	Oct 12	Oct 12	Oct 13	
1980	Dec 12	Dec 13	Dec 21	Oct 12
1981	Dec 5	Dec 5	Dec 15	Oct 1
1982	Dec 15	Dec 15	Dec 29	Oct 1
1983*	Dec 20	Dec 20	Dec 21	Oct 2
1984	Nov 18	Nov 18	Dec 8	Oct 1
1985*	Oct 10	Oct 11	Oct 12	Oct 3
1986*	Dec 19	Dec 19	Dec 19	Sept 30
1987*	Oct 15	Oct 16	Oct 30	Oct 1
1988*	Dec 22	Dec 22	Dec 22	Sept 30
1989	Sept 30	Sept 30	Oct 1	
1990	Nov 15	Nov 17	Nov 21	Sept 29

Source: Various Senate Documents in the U.S. Congressional Serial Set

However, if the House or Senate has passed its DoD Appropriation Act, the continuing resolution may include its text to provide funding for DoD. Years designated with asterisks in Table 2 indicate years when the DoD Appropriation Act was never passed. During these years DoD funding was provided by Further Continuing Appropriations Acts. The Further Continuing Appropriations Acts contained the full text of the DoD Appropriation Acts. Essentially, only the name of the Act is different.

Congress does not specify the level of funding for every line item in the Department of Defense budget. Congress dictates many purchases in the procurement appropriations but the O&M appropriations are more general in nature. Congress states in the O&M section of the DoD Appropriation Act the total funds appropriated for each appropriation title with very few qualifications on the use of the funds. However, Congress expects the Department of Defense to use the funds as detailed in budget justifications presented to Congress and as specified by the committee reports which accompany defense appropriation bills.

Five regular appropriation bills provide DoD funding. These are the DoD, Military Construction, Energy and Water Development, Department of Housing and Urban Development, and the Treasury and Postal Service Appropriation Bills. The largest of these defense bills is the annual DoD Appropriation bill that includes about 97 percent of the total DoD budget. [Ref. 3] This bill also includes the Operations and Maintenance funding discussed in the next section.

#### **B. OPERATIONS AND MAINTENANCE APPROPRIATIONS**

Congressional interest in the O&M funding has grown considerably during the last fifteen years. Although Congress appropriated O&M budget authority every year included in this study, the Armed Services Committees did

not include O&M in the annual authorization bill until fiscal year 1982. Congressional concern over the O&M funding is highly warranted since the O&M appropriations contain approximately 30% of the DoD budget. The O&M appropriation includes funds for such items as the salaries and benefits of civilian DoD employees, flying hours, ship operations, land forces, training, and exercises. Also included are real property maintenance and minor construction under \$300,000, equipment maintenance and overhaul, fuel, repair parts, supplies, and equipment costing less than \$15,000. [Ref. 3] The Senate version of the 1994 DoD Appropriation Act contains a provision to increase the limit on equipment purchases to \$100,000.

The O&M appropriation is commonly referred to as an "expense appropriation" because the funds are only available for obligation for one year with few exceptions. The O&M appropriations finance the cost of ongoing operations for the activities listed above. When the O&M appropriations expire at the end of the fiscal year, the obligation period of availability ends. Upward obligation adjustments after the end of the fiscal year can only occur if the good or service remains within the scope of the expired fiscal year's contract. Essentially, if DoD managers do not obligate the current year O&M funds before the end of the fiscal year, the resources are taken away, promoting the "spend it or lose it" mentality.

When the obligation availability period expires, the appropriation begins a five-year expenditure period. During these five years organizations pay for the unliquidated obligations incurred during the obligation period. Any undisbursed balance at the end of the five-year period is no longer available for expenditure; the appropriation is considered lapsed. Any bills presented after the expenditure period must be paid from current year funds, subject to a one percent limit.

Congress instituted this expenditure process with the 1991 National Defense Authorization Act. Before this Act, expired appropriations lapsed after two years into a Merged ("M") account. Funds placed in the "M" account for a particular appropriation were not identified with a fiscal year. As a result, managers could use these funds for obligation adjustments to any area funded within the applicable "M" account. Congress required DoD to eliminate the "M" accounts by September 30, 1993.

### **C. SINGLE YEAR ACCOUNTING SYSTEM**

As discussed in the introduction, many people criticize how the DoD spends budgeted resources. In their best-selling book, *Reinventing Government*, David Osborne and Ted Gabler dedicate many pages to explaining how the present federal government budgetary system encourages managers to waste funds. This is commonly referred to as the "use it or

lose it" or "legal spender" mentality. They are especially critical of wasted federal funds at the end of the fiscal year. The smart managers will find valid requirements to obligate all of their funds before the O&M appropriation expires. From an economic standpoint, managers are simply trying to maximize the utility from the goods and services purchased by their command subject to a budget constraint. Obviously, this does not mean that DoD's utility is maximized. Optimizing the various parts does not ensure optimization of the whole.

Furthermore, current accounting regulations enacted by the 1991 National Defense Authorization Act require DoD managers to maintain six separate years of accounting data for O&M appropriation accounts. According to one source "these requirements cause heavy administrative burdens, increased costs, and promote behavior inconsistent with good financial management" [Ref. 4].

The DoD Comptroller Office has been researching possible changes in the O&M accounting laws because of these problems. One of the options is to replace current accounting regulations with a single year accounting system developed by Captain Ray Archer, Pacific Fleet Naval Air Force Supply Officer.

This single year accounting concept requires the manager to maintain only one set of books for a given appropriation. The appropriation will be tracked for only one year.

Managers will bring forward prior year requirements into the current fiscal year. [Ref. 4]

This system requires four ledgers. The uncommitted ledger contains the budget authority remaining for commitment. This ledger always remains open and the end of fiscal year balance rolls forward to the next fiscal year. The proposal recommends limiting the amount brought forward to a fixed percentage of the new budget authority in order to encourage savings and to prevent rewarding consistent over budgeting by managers. [Ref. 4]

The committed ledger will also always remain open. The end of the fiscal year will not affect this ledger. No matter when a requirement is committed, it will always obligate to the current year. Commitments that obligate reduce the balance of this ledger. [Ref. 4]

The unliquidated obligations ledger always remains open. The balance is also brought forward (BF) at the end of the fiscal year. Obligations increase the balance and expenditures decrease the balance. The last ledger is the expenditure ledger which is closed out at the end of the fiscal year. [Ref. 4]

Under the proposal, each fiscal year Congress will appropriate new O&M budget authority adding to the balance brought forward. The system operates similar to that of a checkbook. Balances just keep rolling forward.

The significant rules of the single year accounting system are summarized below:

- all credits and debits are posted to the current year
- prior year requirements are funded by current year resources
- commitments remain valid unless withdrawn by the funding source
- all commitments obligate against the current year
- no accounting for prior years
- all ledgers and records are treated as current year [Ref. 4]

The expected benefits from this system include better use of funds at the end of the fiscal year, better stewardship of appropriated funds, and reduced accounting resource requirements. Economic utility of DoD will be increased because DoD managers will be motivated to search for funds to deobligate to finance other higher priorities. These funds will always be available to fund new requirements. [Ref. 4]

This system is also expected to improve contracting practices and to reduce interest payments under the Prompt Payment Act by reducing the present delays in paying for underfunded prior year requirements. Committed requirements of contracts can remain active after the end of the fiscal year. The contracting officer's efforts at the end of the fiscal year will not be in vain because funds will not be lost. [Ref. 4]

This study is part of the process of determining whether it will be worthwhile attempting to implement this single year accounting system for O&M appropriations.

#### **D. PAST O&M RESEARCH**

Most studies [Housley 1986, Lopatto 1987] examine spending patterns across a number of fiscal years instead of investigating patterns within fiscal years as this research will do. Furthermore, countless studies have been performed on the procurement appropriations. The General Accounting Office (GAO) reports on specific programs that can use funds better every year. However, few reports on spending in the O&M appropriations exist. In fact, the last GAO report dealing with O&M obligation patterns within fiscal years was issued in October 1971.

That GAO report reviewed the Army's policies and practices for obligating O&M funds during the last two months of the fiscal year. The report found that the Army complied with laws limiting obligations during the last two months of the fiscal year to 20 percent. However, the GAO discovered several instances where funds were not obligated for current fiscal year needs. [Ref. 5]

Extensive literature reviews indicate that recent studies of O&M obligation patterns within fiscal years are not available. Nevertheless, the specific subject in the GAO's report on the Army will also be a key area in this

study. The GAO has issued two reports on near-end of year spending patterns in the federal government. *Federal Year-End Spending: Symptom of a Larger Problem* (PAD 81-18) analyzed gross obligations for fiscal years 1977, 1978, and 1979. This report also analyzed the obligation data by object class. *Federal Year-End Spending Patterns for Fiscal Years 1982, 1983, and 1984* (AFMD 85-75) reported on the same areas. Neither report separated O&M obligations from the total obligations.

There is a need for a new accounting system such as the one described in this chapter. This study of obligation patterns hopes to determine if the "end of year dump" truly exists at the component level and if it is significant in relation to the total O&M funding.

### III. METHODOLOGY

This research is an analysis of obligation data received from four sources in the Department of Defense: DFAS and the Army, Navy, and Air Force Comptroller Offices. The data includes monthly obligation totals for the eleven O&M appropriations discussed in Chapter I. The data from DFAS covers the 14 fiscal years from 1977 through 1990.

To determine the magnitude and types of goods and services the Military Departments purchase at the end of the fiscal year, obligation data organized by object class and element of expense was collected. This data caused some problems in the analysis that will be discussed in the section about object classes.

#### A. DFAS OBLIGATION DATA

The 14 years of monthly obligation data received from DFAS were converted to percentages of budget authority for each month in the fiscal year. The analysis was based on the percentage of budget authority obligated each month and not the dollar amounts. This data is included in Appendix A.

Emphasis was placed on the Army, Air Force, Navy, Marine Corps, and Defense Agencies O&M appropriations because these five appropriations contain close to 90 percent of the total O&M funds.

The study analyzed the data using the MINITAB statistical package. For each appropriation, the obligation data was analyzed monthly and presented as monthly and quarterly average obligations in the body of this report. The MINITAB output presented in Appendix B includes the following information for each month of the fiscal year for the eleven appropriations analyzed in the report.

- N: the number of data points.
- MEAN: the sum of the data divided by N.
- MEDIAN: the middle data point for an odd number of data points or the average of the two middle data points for an even number of data points.
- TRMEAN: this is the 5 percent trimmed mean which is designed to eliminate outlying data.
- STDEV: the sample standard deviation
- SEMEAN: the standard error of the mean
- MIN: the smallest data value
- MAX: the largest data value
- Q1: the first quartile
- Q3: the third quartile

The mean obligation percentages for each month were graphed for the entire fiscal year to visually represent the spending patterns. Also, separate graphs overlaying all four quarters within the fiscal year were created to display differences in obligations at the end of the fiscal year.

Next, for each appropriation analyzed the 14 data points for each month were plotted using MINITAB to determine if a linear trend existed.

#### **B. OBJECT CLASS DATA**

The OMB created object classes to describe the purposes for the obligation of funds. Treasury Department Circular Number 1073 requires all federal agencies to submit monthly obligation reports prior to 1983 and quarterly obligation reports starting in 1983. Obligations are reported by object class for all unexpired appropriations. Summarized in the Treasury Department's quarterly bulletin, this object class data is the only government-wide source of obligations. The Report on Obligations (Standard Form 225) includes the object classes in Table 3.1 preceded by their two digit code.

This report analyzed year-end obligations by object class for the Army and Navy for several reasons. The 18 object classes listed below are a small workable number of categories. This may help designate areas for very specific research in the future. Furthermore, object classes are the only common denominator for classifying expenses within appropriations among the many accounting systems used by the Military Departments. Essentially, it is the only way to easily compare data within DoD. The GAO used this approach for their government wide studies for similar reasons.

TABLE 3.1  
OBJECT CLASSES

CODE	OBJECT CLASS TITLE
11	Personnel compensation
12	Personnel benefits
13	Benefits for former personnel
21	Travel and transportation of persons
22	Transportation of things
23	Rent, communications, and utilities
24	Printing and reproduction
25	Other services
26	Supplies and materials
31	Equipment
32	Lands and structures
33	Investments and loans
41	Grants, subsides, and contributions
42	Insurance claims and indemnities
43	Refunds
91	Unvouchered
92	Undistributed U.S. obligations

Source: DoD Accounting Manual

However, analyzing data by object class is not without problems. The GAO and this research study had similar problems with the data. First, the GAO encountered problems with incorrectly classified data. The object classifications are not functionally useful categories for the DoD. As a result, managers are sometimes confused about which object class to charge an obligation against. [Ref. 6]

Also, errors in the Treasury Department reports occur

because accounting mistakes corrected by the Military Departments are not updated by the Treasury Department. This research study circumvented this problem by obtaining the obligation data directly from the Military Departments. [Ref. 6]

The data also suggests possible errors due to negative numbers that could result from large de-obligations or adjustments for previous accounting errors. The last data problem results from the manner in which the Military Departments determine the object class for the obligations. A section in the DoD Accounting Manual provides the following rules:

When basic records of obligations incurred supply information on obligations by object class, data for the report shall be obtained from such sources. Applied cost or accrued expenditure data identified by object class may be projected to equal obligations incurred, if the change in selected resources is not so identified. When sources of information for reports by object class on an actual basis are not available, estimates shall be used based on projections of outlays, when the records are classified by object class. [Ref. 7]

In view of these reporting requirements, only the Department of the Air Force and the Department of the Army could provide actual monthly obligation data organized by object class for this study. The Army provided data for fiscal years 1983 through 1992. The Air Force's data covered fiscal years 1981 through 1992.

The Department of the Navy's object class data cannot be used in this study because it does not provide actual

monthly or quarterly obligations. According to NAVCOMPT INSTRUCTION 7301.20D, the data is developed in the following manner.

[Treasury Department Circular No. 1073] provides that, where an agency does not maintain a breakdown of obligations by object class on a current basis, such data may be developed from available information in the agency. Accordingly, the Navy will continue to prepare the reports on a statistical basis [emphasis added] from the data provided by the responsible offices on Percentage Report on Obligations by Object Class report. [Ref. 8]

In other words, the Navy bases the data on historical outlay data that changes very little from year to year. These outlay percentages are applied uniformly across all four object class reports submitted each fiscal year. In short, the object class data is "flatlined" and provides no variation within the fiscal year to explain the peak in year-end obligations.

Because of the problems discussed above, this report analyzed the O&M Navy appropriation year-end spending patterns by expense element codes. Every O&M obligation must be identified by an expense element. Table 3.2 lists the elements of expense by the code and title in the Navy Comptroller Manual. When the expense elements correspond closely to object classifications, the object class code is also listed. The Navy Comptroller Office supplied obligation data organized by expense element for the last quarter of fiscal years 1989 through 1992. Similar to the

TABLE 3.2  
ELEMENTS OF EXPENSE

ELEMENT OF EXPENSE	RELATED OBJECT CLASS	ELEMENT OF EXPENSE TITLE
A		Military personnel
B		Military trainees
C		Military personnel unassigned
D		Purchased equipment maintenance
E	21	Travel of personnel
F	22	Transportation of things, MA
G	22	Transportation of things, comm. air
H	22	Transportation of things, MSC
J	22	Transportation of things, inland
K	22	Transportation of Things, QUICKTRANS
L	22	Transportation of things, other
M	23	Utilities and rent
N	23	Communications
O		Service transfers, unfunded
P		Purchased equipment maint., commercial
Q	25	Purchased services, other
R		Aircraft POL
S		Ship POL
T	26	Supplies
U	11,12,13	Civilian personnel
V		Other POL
W	31	Equipment
X		Other expenses
Y	24	Printing and reproduction
Z		Service transfers, funded
2		Aviation depot level repairable

data received from DFAS, the object class and expense element data are analyzed on a percentage basis.

### **C. CONGRESS AND OMB**

The data discussed in the two preceding sections are compared to congressional laws and OMB regulations to identify their influence on the spending patterns. These laws and regulations are the factors external to DoD providing incentives to DoD managers to obligate funds in the observed patterns. The incentives are discussed in detail in Chapter V.

Congress directly asserts influence over the O&M appropriations by four means. These are: the United States Code, the Public Law that has not yet been codified, the DoD Authorization Act, and the DoD Appropriation Act.

Evaluation of this material identified two Titles that provide direct incentives to DoD managers. Most statutory law directly affecting O&M budget execution is contained in Title 31, Subtitle II-Money and Finance, The Budget Process. The remaining codified laws governing the obligation of funds are located in Title 10-Armed Services. The last source of laws providing direct incentives to DoD managers responsible for the obligation of O&M funds is the General Provisions of any DoD Appropriations Act.

All the OMB regulations applicable to the O&M appropriations are in OMB Circular A-34, Instructions on

Budget Execution. Since these regulations are derived directly from the laws mentioned above, little time will be spent discussing this circular. OMB also issues an annual memorandum on end of fiscal year spending to all executive agencies stressing the need for close monitoring of obligations in September. It states that managers should not obligate more funds than their average obligations in the first three quarters of the fiscal year. The instructions also warns managers against obligating funds for other than current fiscal year needs.

Finally, based on the analysis of the accounting data and the applicable laws, this study will comment on the advantages and limitations of the proposed single year accounting system.

#### IV. DATA ANALYSIS

The data analysis is divided into six sections: total O&M obligations, Navy, Air Force, Army, Defense Agencies, and a final section summarizing the results. Each section analyzes O&M appropriation account financial data. The Military Department sections also present results organized by object class or element of expense.

##### A. DEPARTMENT OF DEFENSE TOTAL O&M OBLIGATIONS

This section combines the results of 11 appropriations to present a nearly complete picture of the Department of Defense O&M obligation patterns. Some small appropriations such as Army Rifle Practice and Defense Claims, for example, have been omitted. Their monetary value is insignificant compared to the other appropriations discussed in this research project.

Figures 4.1 and 4.2 graphically represent the overall O&M obligation patterns for DoD. Highlights from the data compiled from FY 1977 to FY 1990 are summarized below. Quarterly average obligation rates are 26.60 percent (first quarter), 24.44 percent (second quarter), 22.52 percent (third quarter), and 26.28 percent (fourth quarter).

Clearly, there is a quarterly cyclic pattern with an increase in the obligation rate in September. Obligations

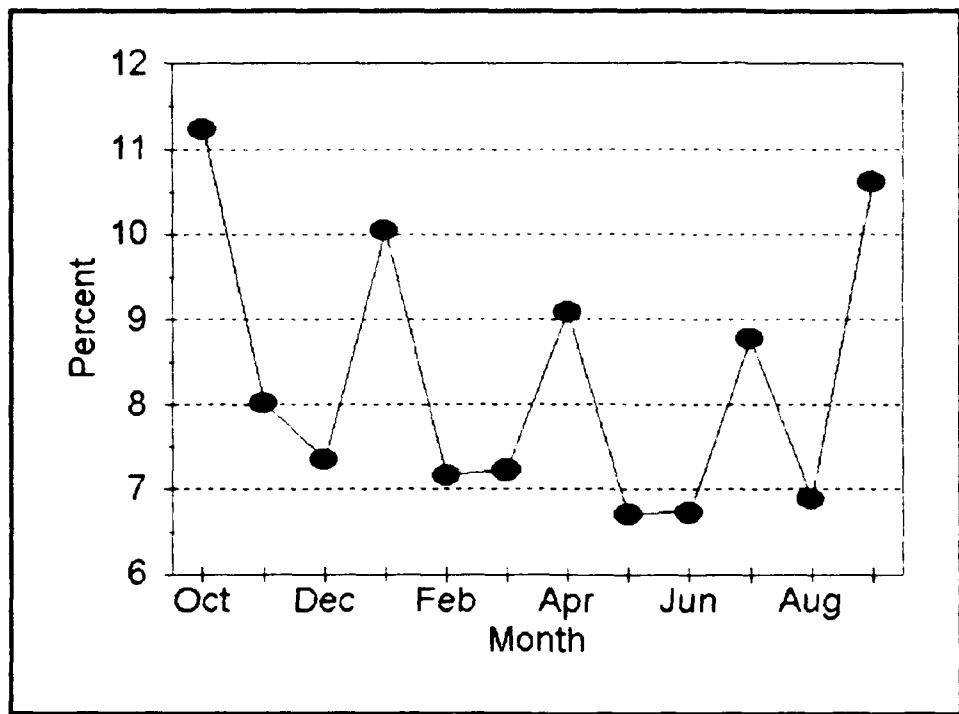


Figure 4.1: DoD Average Monthly O&M Obligations as a Percentage of Budget Authority

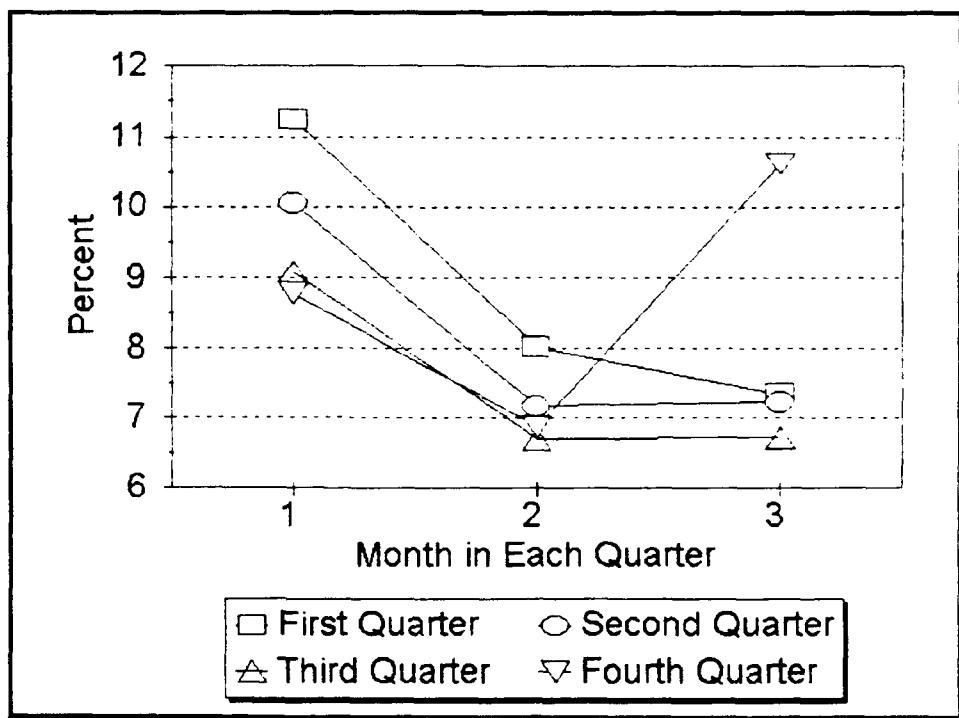


Figure 4.2: DoD Average Quarterly O&M Comparison

during the first month of each quarter decrease as the fiscal year progresses. Moreover, most obligations each quarter occur during the first month with the exception of the fourth quarter due to the surge at the end of the year.

On average, the amount of obligations during the September surge is greater than the amount of obligations that occur in any month besides October. Compared to the last month of the other three quarters, the average increase in the obligation rate in September is **3.52 percent**. To help put this percentage in perspective, the average increase in obligations at the end of the fiscal year between FY 1977 and FY 1990 would equal \$2.98 billion of the FY 1992 O&M appropriations. Lastly, the DoD obligates an average of 17.50 percent of the O&M budget authority during the last two months of the fiscal year. This is well below the 20 percent limit.

The next four sections segregate the DoD collective obligation data presented in Figures 4.1 and 4.2 into eleven O&M appropriations within the Military Departments and Defense Agencies. Analysis of this data also includes a presentation of obligations classified by Object Class and Element of Expense.

## **B. DEPARTMENT OF THE NAVY**

This section analyzes the Operations and Maintenance Navy (OMN), Operations and Maintenance Navy Reserve (OMNR),

Operations and Maintenance Marine Corps (OMMC), and Operations and Maintenance Marine Corps Reserve (OMMCR) Appropriations. The research includes descriptions of the entire annual obligation pattern, the fourth quarter obligation patterns, and the element of expense categories causing the surge in obligations near the end of the fiscal year.

### **1. Annual Obligation Patterns**

Overall, the obligation patterns for these appropriations exhibit a cyclic quarterly pattern with a surge in obligations at the end of the fiscal year. The average quarterly obligations for these four appropriations are shown in Table 4.1.

All of these appropriations except OMN exhibit increasing average quarterly obligations over the fiscal year. The OMMC is the most extreme case. Over 30% of the OMMC budget authority is obligated during the last quarter of the fiscal year.

TABLE 4.1  
DEPARTMENT OF THE NAVY AVERAGE QUARTERLY OBLIGATIONS  
AS A PERCENTAGE OF BUDGET AUTHORITY

	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
OMN	26.64%	25.41%	22.62%	24.51%
OMNR	22.68%	23.30%	23.36%	28.74%
OMMC	20.48%	23.46%	23.93%	<b>31.67%</b>
OMMCR	21.24%	22.79%	25.72%	29.64%

On the other hand, the Navy obligates the highest percentage of OMN budget authority during the first quarter of the fiscal year. Quarterly obligations in OMN then decrease the next two quarters and rise again in the fourth quarter.

## 2. United States Navy O&M Obligation Patterns

Figure 4.3 displays the OMN average monthly obligations as a percentage of budget authority. This is followed by Figure 4.4 comparing OMN average quarterly obligations.

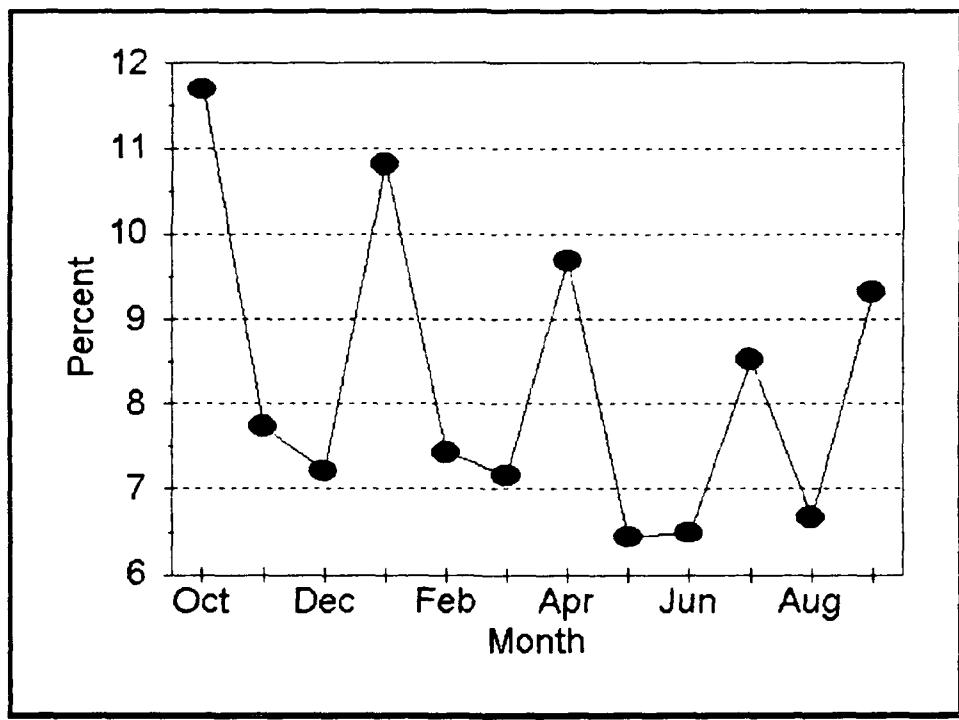


Figure 4.3: O&M Navy Average Monthly Obligations as a Percentage of Budget Authority

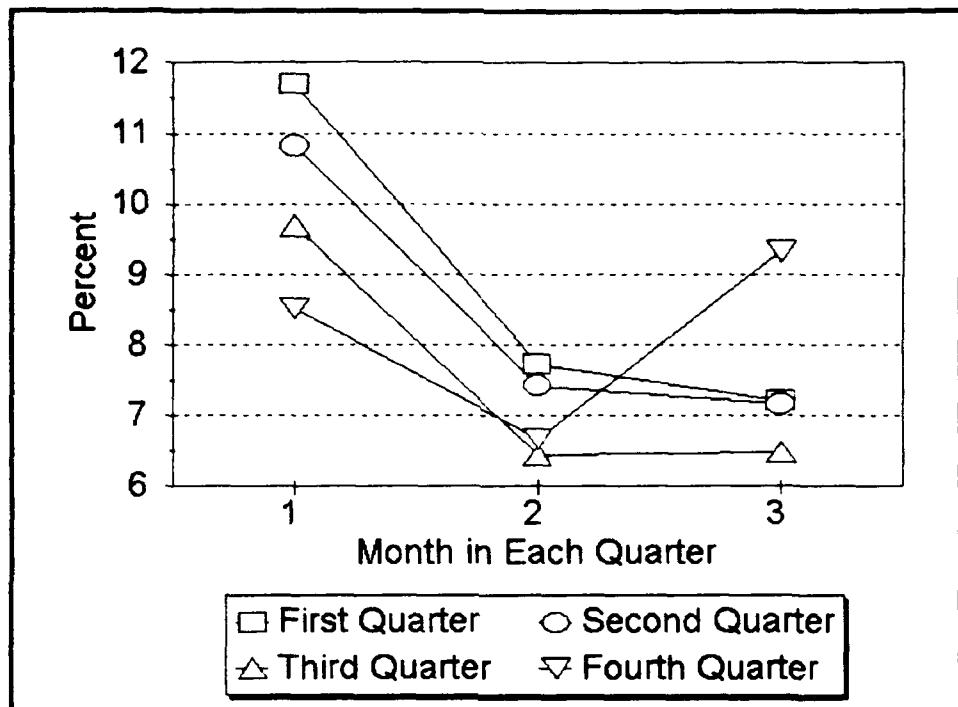


Figure 4.4: O&M Navy Average Quarterly Comparison

These figures display a strong cyclic pattern with a surge at the end of the fiscal year. Furthermore, the annual obligation pattern shows obligations in the first month of each quarter decreasing over the fiscal year.

On a quarterly basis, OMN obligations are the highest during the first month of a typical quarter. Obligations then decrease in the following two months each quarter except for September. The last month of the fiscal year exhibits an average of **3.56 percent** more obligations than the last month of previous quarters. Also, a higher average percentage of obligations occurs in September than during the second month of any fiscal quarter.

The OMNR obligation patterns, shown in Figures 4.5 and 4.6, also display quarterly cycles with a surge in September. However, the OMNR annual pattern exhibits an increasing trend for the first month of each quarter. This is the opposite of OMN.

With respect to the months within each quarter, OMNR shows the same decreasing trend as OMN during the first quarter. However, less budget authority is obligated during the second month of each quarter during the remainder of the year. Finally, the OMNR exhibits a **3.20 percent** average increase in obligations during September compared to the end of previous quarters.

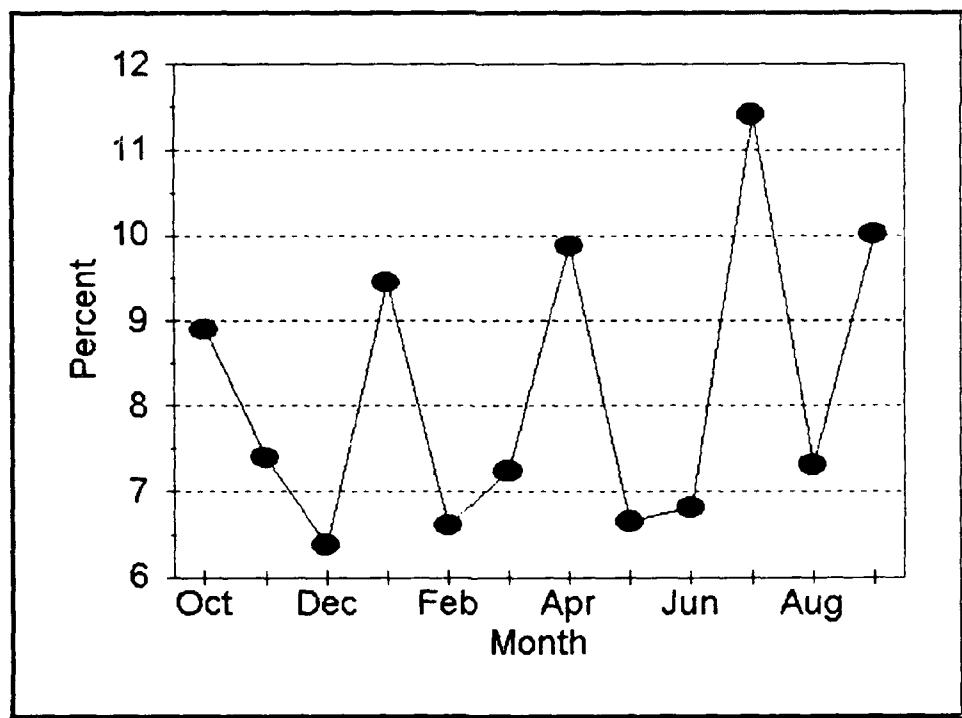


Figure 4.5: O&M Navy Reserve Average Monthly Obligations as a Percentage of Budget Authority

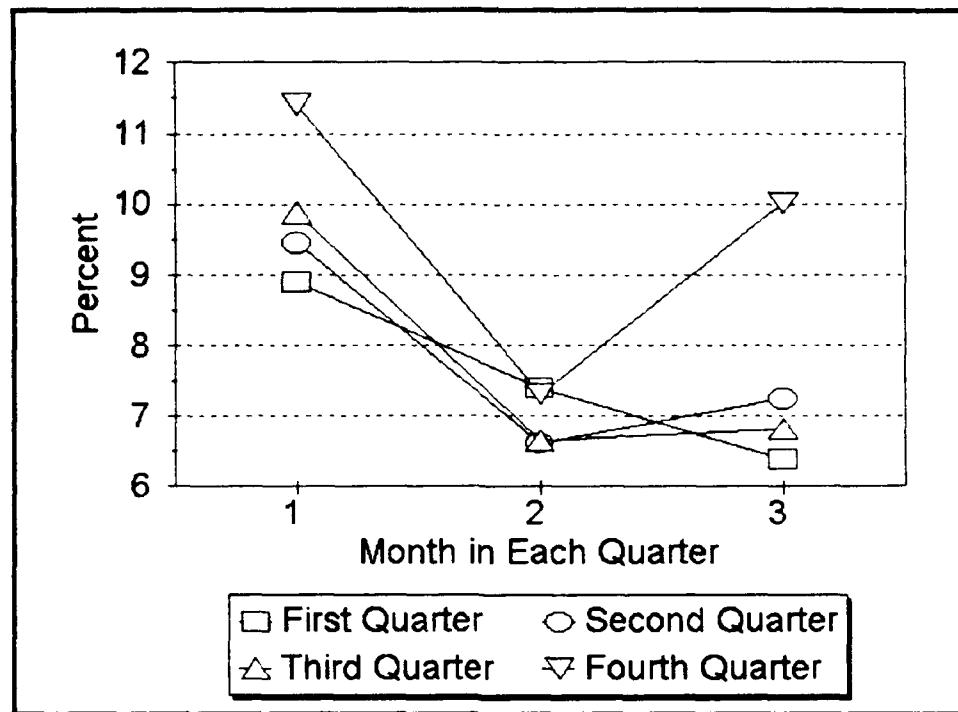


Figure 4.6: O&M Navy Reserve Average Quarterly Comparison

### 3. United States Marine Corps O&M Obligation Pattern

Annual and quarterly trends for OMMC are displayed in Figures 4.7 and 4.8 respectively. The Marine Corps also tends to obligate more OMMC budget authority during the first month of each quarter with a end of fiscal year peak.

The percentage of obligations for the first month of each quarter also increase from the first to the fourth quarter similar to OMNR. This suggest that the Marine Corps obligates funds more conservatively early in the fiscal year. The least OMMC budget authority is obligated during the second month each quarter. This appropriation also

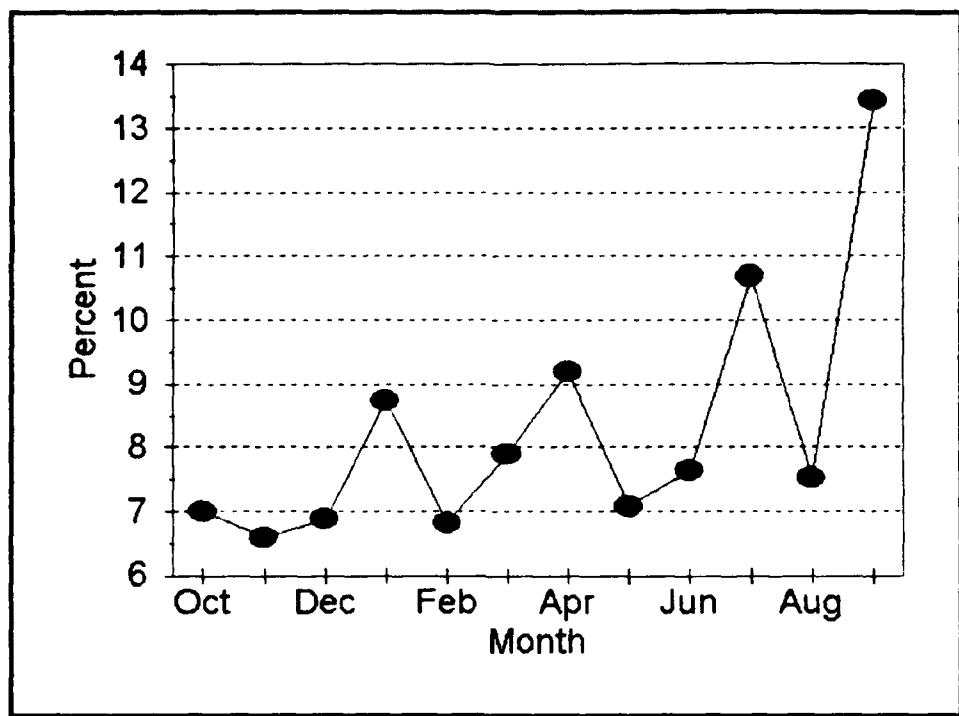


Figure 4.7: O&M Marine Corps Average Monthly Obligations as a Percentage of Budget Authority

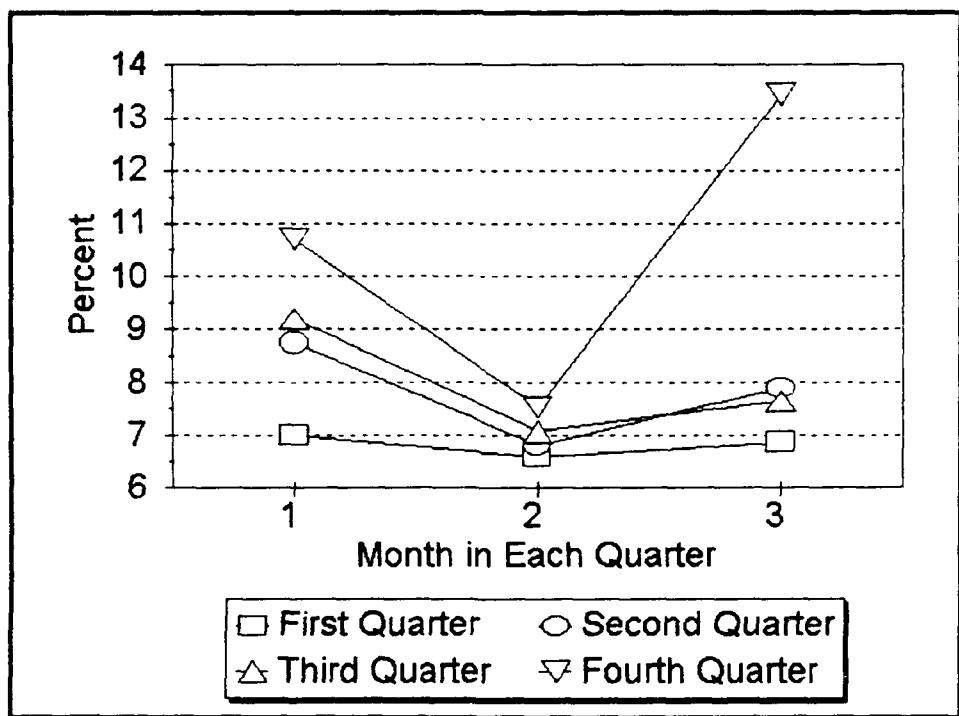


Figure 4.8: O&M Marine Corps Average Quarterly Comparison

exhibits a **5.96 percent** average increase in obligations during September compared to the end of previous quarters.

The data for OMMCR, displayed graphically in Figures 4.9 and 4.10, have the largest standard deviations (see Appendix B) of any appropriation analyzed in this research project. The standard deviations range from a low of 1.2 percent for September to a high of 4.98 percent in July. This significant spread in the data makes it more difficult to draw conclusions about OMMCR obligation patterns. Obviously, compared to the repeating quarterly pattern of other O&M appropriations, the monthly obligation pattern in Figure 4.9 is more erratic over the course of the fiscal

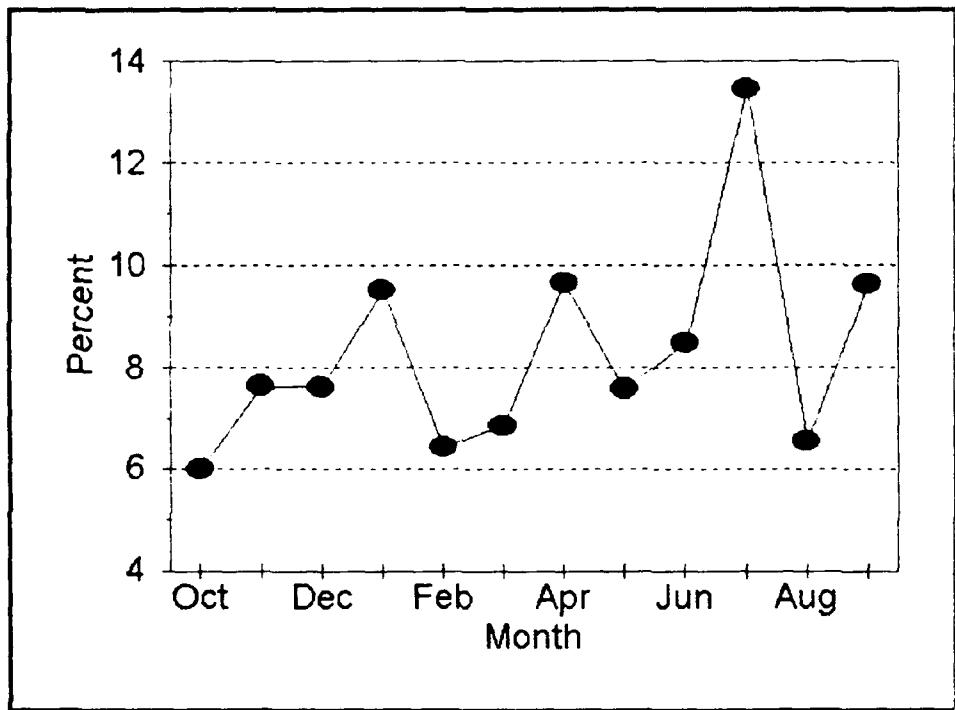


Figure 4.9: O&M Marine Corps Reserve Average Monthly Obligations as a Percentage of Budget Authority

year.

Obligations in October are also a small percentage of the budget authority similar to O&M Marine Corps. Moreover, the increase in obligations in September is only a average of **1.98 percent**. The Marine Corps also clearly obligates much of the OMMCR budget authority during July. This month has a 13.47 percent average over the fourteen years, decreasing from a high of 21.3% in FY 1978 to a low of 5.3% in FY 1989.

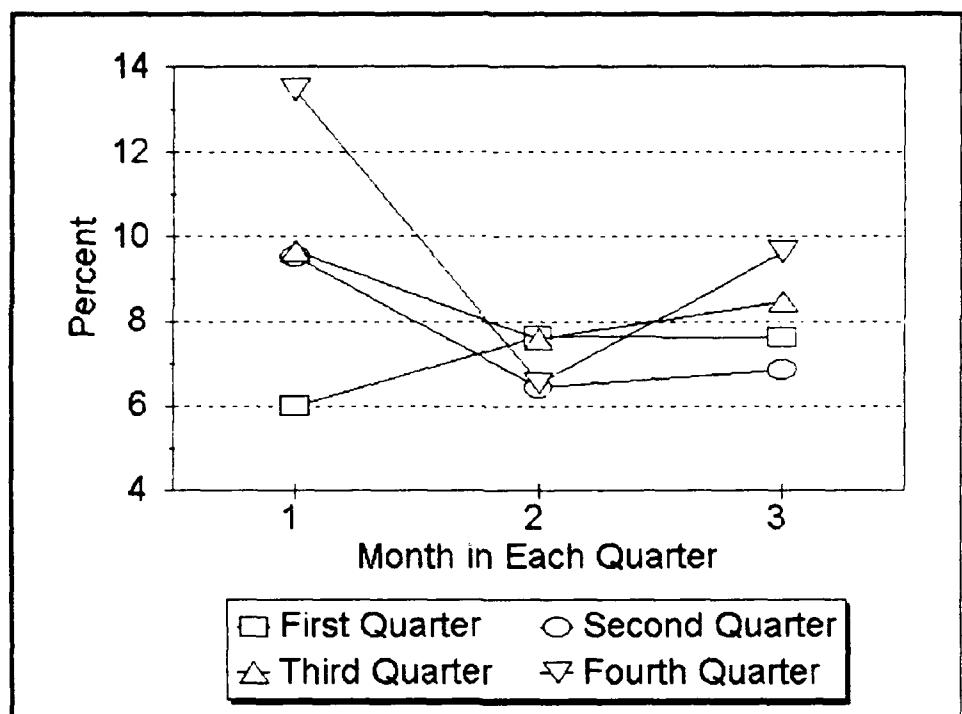


Figure 4.10: O&M Marine Corps Reserve Average Quarterly Comparison

#### 4. Fourth Quarter Obligation Limits

The high rate of obligations in July helped keep OMMCR below the 20 percent limit for the last two months of

the fiscal year. During every year analyzed in this study, Congress included a paragraph in the general provisions of the DoD Appropriation Act or the Continuing Appropriation Act that limits obligations to 20 percent of the total budget authority during the last two months of the fiscal year. This restriction does not apply to obligations to support active duty training of reserve components, summer training of the Reserve Officer's Training Corps, or to the Army National Board for the Promotion of Rifle Practice [Ref. 9].

As indicated in Table 4.2, OMMCR exceeded the 20 percent obligation limit during the last year included in this research. The OMMCR obligations averaged 16.17 percent compared to 20.97 percent for OMMC during the last two months of the fiscal year. The data from DFAS indicates that the Marine Corps exceeded the 20 percent limit in FY 1977 through FY 1984, FY 1988, and FY 1990.

The Navy averaged 18.45% for OMN obligation rates and 17.33% for OMNR obligation rates during last two months of the fiscal year. Navy obligations of OMN did not exceed the 20% limit during the years covered by this research. The data indicates that the Navy's obligation of OMNR exceeded 20% in FY 1979 and FY 1980.

## 5. Element of Expense Data

Surges in obligations during the fourth quarter of the fiscal year consistently result from managers increasing spending in a few categories. The Department of the Navy Comptroller Office provided OMN monthly obligation data for

TABLE 4.2  
O&M OBLIGATIONS DURING THE LAST  
TWO MONTHS OF THE FY FOR THE  
DEPARTMENT OF THE NAVY  
(PERCENTAGE OF BUDGET AUTHORITY)

FISCAL YEAR	OMN	OMNR	OMMC	OMMCR
1977	15.30%	14.67%	21.07%	16.40%
1978	16.52%	13.30%	23.31%	17.58%
1979	17.08%	20.83%	21.28%	15.19%
1980	17.48%	20.08%	21.07%	14.07%
1981	16.04%	17.51%	23.89%	15.85%
1982	15.15%	16.18%	21.17%	15.21%
1983	15.97%	16.08%	22.49%	17.30%
1984	15.05%	17.46%	20.68%	17.44%
1985	16.68%	18.94%	19.68%	16.08%
1986	16.07%	19.84%	16.36%	12.96%
1987	17.04%	17.98%	19.23%	13.85%
1988	17.06%	16.62%	20.64%	14.13%
1989	14.13%	17.75%	19.67%	19.88%
1990	14.27%	15.38%	23.08%	20.44%

the last quarter of the fiscal year from FY 1989 to FY 1992.

Organized by element of expense within budget activities, the data are presented in Appendix C. The

budget activities included in Appendix C are: Strategic Forces, General Purpose Forces, Intelligence and Communications, Airlift and Sealift, Central Supply and Maintenance, Training, Medical, and Other General Personnel Activities, Administration and Associated Activities, Support of Other Nations, and Special Operations Forces.

The tables in Appendix C are designed to display the categories of purchases that contributed to the surge in obligations near the end of the fiscal year. They include only the elements of expense in which managers obligated either (1) greater than 30 percent of the categories' total obligations during the fourth quarter or (2) greater than 20 percent of the categories total obligations during the last two months of the fourth quarter. In some cases the percentage of funds obligated during the last two months of the fiscal year is greater than the total reported for the entire fourth quarter. This occurs because of managers deobligating funds in July and from correcting errors in previously reported obligations.

Approximately half of the total funds are included in four Elements of Expense: Purchased Equipment Maintenance (12%), Purchased Services (19%), Supplies (10%), and Civilian Personnel (9%). The first three account for most of the increase in obligations during the fourth quarter.

Purchased Equipment Maintenance, whether intra-DoD or commercial purchases, includes ship overhauls, ship

restricted availabilities, aircraft repair and overhaul, and the repair and maintenance of vehicles and other equipment. Many of the obligations in this category, such as ship overhauls and restricted availabilities, are planned well before the end of the fiscal year. This suggests that this categories' surge in obligations in September results partly from the Navy's preplanning of aircraft and ship maintenance and not just the rush to obligate all O&M funds before the end of the fiscal year.

Purchased Services includes obligations for contractual services, transfer and storage of household goods, and custom software costing less than \$25,000. The contractor must start work on the contract before the end of the fiscal year or the O&M funds are no longer available. Funds from the previous fiscal year may be obligated in the next fiscal year to complete work within the scope of the contract. However, it is illegal to use contracts or reimbursable work for the purpose of extending the availability of O&M funds.

Two types of reimbursable work are Economy Act Orders (EAO) and Project Orders (PO). Economy Act Orders are used in the Navy to request routine and recurring services. O&M funds cited on a EAO can only be used during the current fiscal year. On the other hand, Project Orders are used to request specific work within very clear limits. The repair of a vehicle is an example of work covered by a

PO. Funds obligated for a PO remain available until the work is completed. Thus, O&M funds cited on a PO may be carried over to the next fiscal year.

The third category that contributed significantly to the surge in obligations near the end of the fiscal year is Supplies. This category includes goods that are normally consumed within one year, used in construction, or used as a minor part of a piece of equipment. Office supplies, ADP materials, clothing, publications, ammunition, and construction materials are examples of goods in this category. Supplies purchased at the end of the fiscal year must support current fiscal year requirements or replace inventory items consumed during the fiscal year.

Obligation of funds for Civilian Personnel occurs at a nearly constant rate over the fiscal year compared to the other categories. This categories' obligations, which include pay and benefits for present and former employees, do not contribute to the surge in obligations near the end of the fiscal year.

The Element of Expense data is quite easy to compare to the Object Class data from the Army and Air Force. For comparing data between the Military Departments, Purchased Equipment Maintenance and Purchased Services are part of Object Class 25 (Other Services). Supplies are part of Object Class 26 (Supplies and Materials).

Other elements of expense consistently contributed to the increase in obligations at the end of the fiscal year. These areas include Transportation of Things, POL (Petroleum, Oil, and Lubricants), Equipment, Printing and Reproduction and other minor categories listed in Appendix C. Some of these categories have significant surges in obligations near the end of the fiscal year. However, the effect of these categories on the end of fiscal year spending patterns is less significant than Purchased Equipment Maintenance, Purchased Services, and Supplies because they include much smaller amounts of funds.

Although a small percentage of the total funds, the Equipment Element of Expense category exhibits a large peak in obligations near the end of the fiscal year. This category includes items such as motor vehicles, furniture, machinery, ADP equipment, armaments, instruments, and appliances. Between FY 1989 and FY 1992, every budget activity analyzed (except Airlift and Sealift, Support of Other Nations, and Special Operations Forces) obligated greater than 30 percent of their total O&M equipment obligations during the fourth quarter or greater than 20 percent during the last two months of the fiscal year. Overall, an average of 41 percent of the Navy's O&M equipment obligations occurred during August and September.

### C. DEPARTMENT OF THE AIR FORCE

Within the Department of the Air Force this research analyzed the Operations and Maintenance Air Force (OMAF), the Operations and Maintenance Air Force Reserve (OMAFRES), and the Operations and Maintenance Air National Guard (OMANG) appropriations. The following sections describe the annual obligation patterns, the fourth quarter surge in obligations, and the obligations classified by object class.

#### 1. Annual Obligation Patterns

In general, obligation patterns are the same as those in the Department of the Navy. There are distinct quarterly cycles with a peak in obligations during September. Graphs of the average monthly obligations over the entire fiscal year (Figures 4.11, 4.12, and 4.13) clearly show these trends for OMAF, OMAFRES, and OMANG. The OMAF appropriation displays the same decreasing trend as OMN for obligations during the first month of each quarter. The OMAFRES and OMANG appropriations have different patterns for the first month of each quarter but they still display quarterly obligation cycles.

On average, most obligations occur in the first month of each quarter. The Air Force obligates an average of 43.44 percent of their annual OMAF budget authority during the months beginning each fiscal quarter. This

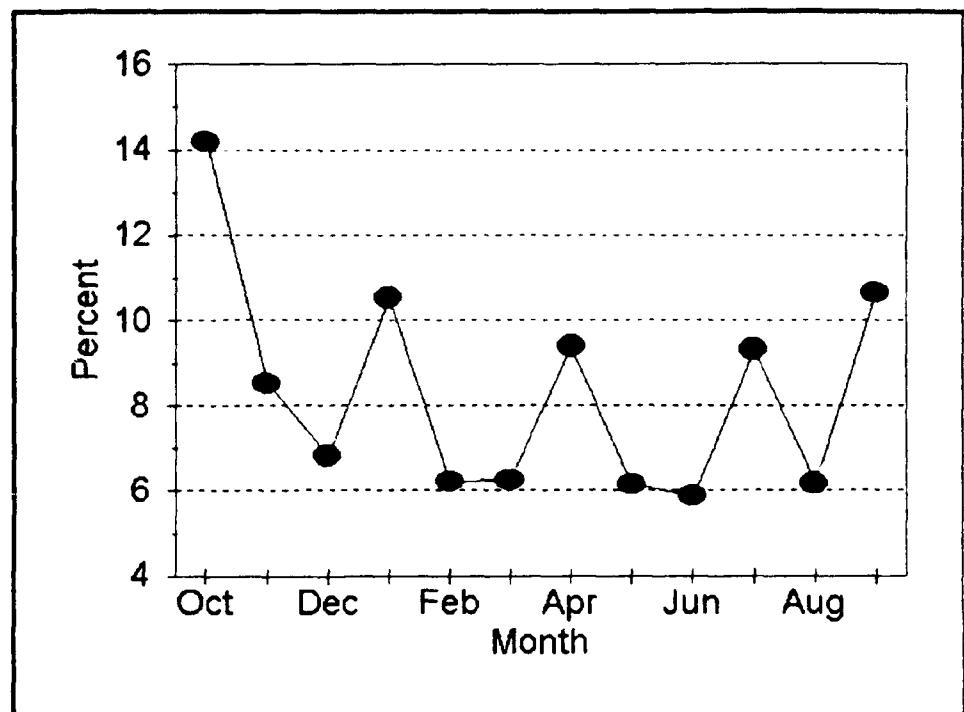


Figure 4.11: O&M Air Force Average Monthly Obligations as a Percentage of Budget Authority

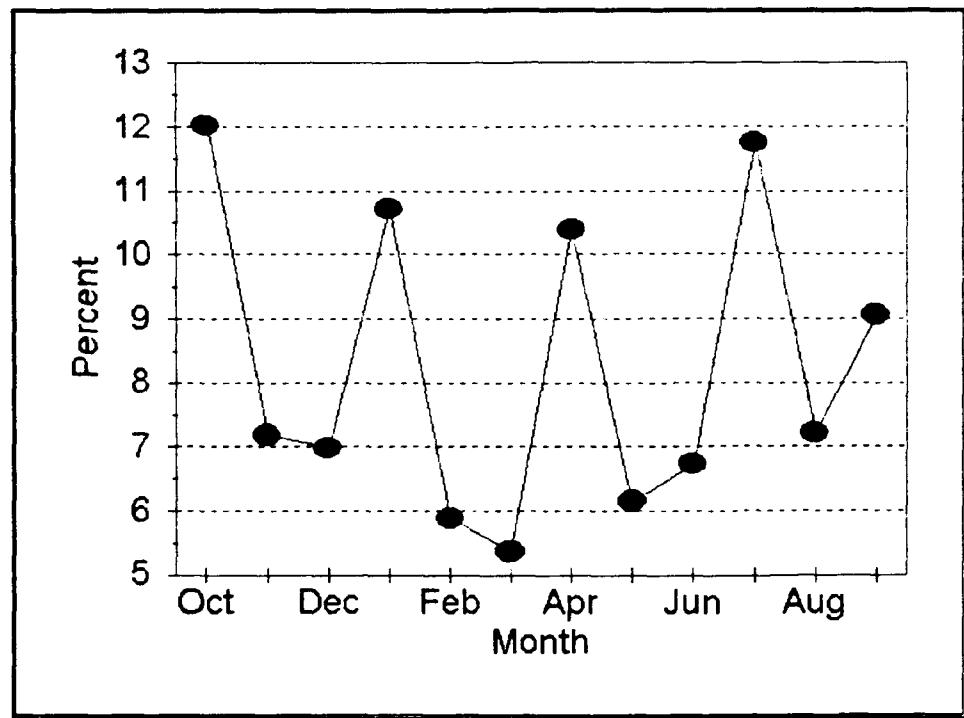


Figure 4.12: O&M Air Force Reserve Average Monthly Obligations as a Percentage of Budget Authority

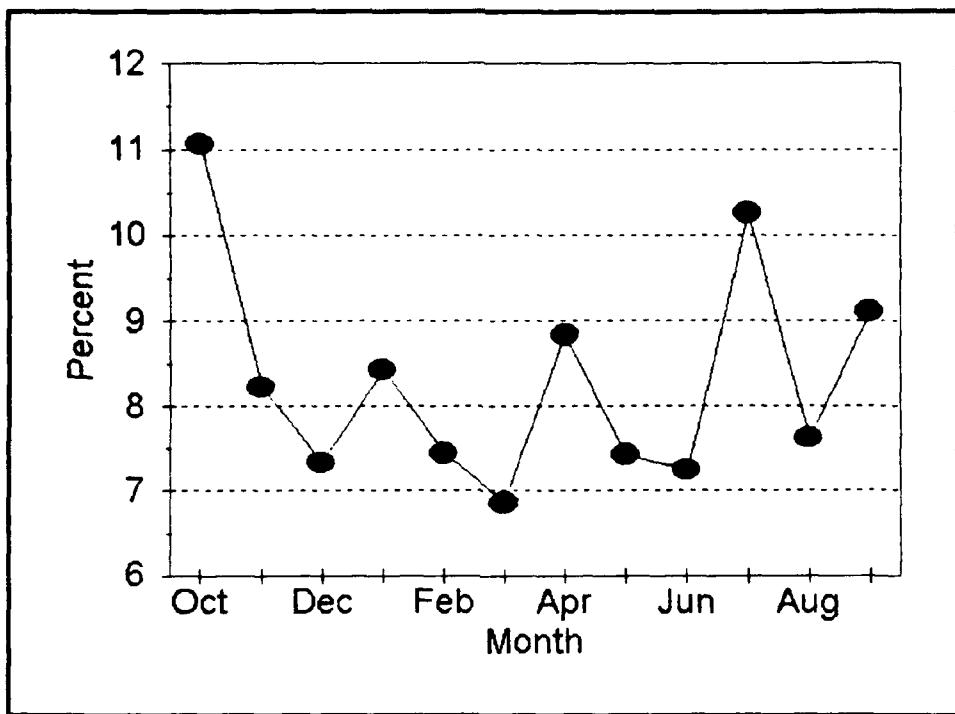


Figure 4.13: O&M Air National Guard Average Monthly Obligations as a Percentage of Budget Authority

compares to 44.88 percent and 38.59 percent for OMAFRES and OMANG respectively.

Table 4.12 displays the percentage of budget authority obligated each quarter for these three appropriations. The average obligations each quarter decrease the first three quarters of the fiscal year for OMAF. Obligations surge again during the last quarter. Contrary to OMAF, the OMAFRES and OMANG average obligation rates decrease the first two quarters of the fiscal year and increase during the last two quarters.

TABLE 4.3  
DEPARTMENT OF THE AIR FORCE  
AVERAGE QUARTERLY O&M OBLIGATIONS

	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
OMAF	29.53%	23.00%	21.44%	26.16%
OMAFRES	26.18%	21.98%	23.27%	28.03%
OMANG	26.62%	22.74%	23.52%	27.00%

## 2. Fourth Quarter Obligation Patterns

This increase in obligations during the last quarter of the fiscal year is attributed to the increase in obligations in September. Obligations in September are **4.34 percent, 2.69 percent, and 1.96 percent** higher for OMAF, OMAFRES, and OMANG respectively when compared to the average obligations for the last months of the first three quarters of the fiscal year. This is displayed graphically in Figures 4.14, 4.15, and 4.16 for the Department of the Air Force O&M appropriations.

Again, the research emphasizes that the annual DoD Appropriations Act or Continuing Appropriations Act, as appropriate, states that no more than 20 percent of the budget authority may be obligated during the last two months of the fiscal year. This is a legal requirement. The Air Force obligates an average of 16.8 percent, 16.28 percent, and 16.74 percent of their OMAF, OMAFRES, and OMANG budget authority during the last two months of the fiscal year.

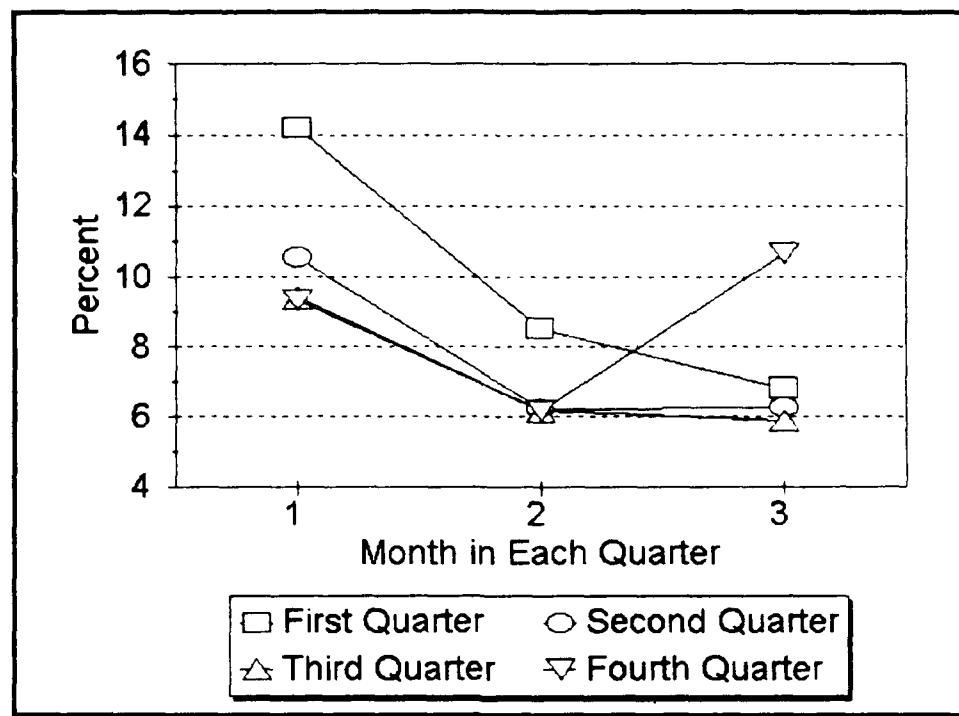


Figure 4.14: O&M Air Force Average Quarterly Comparison

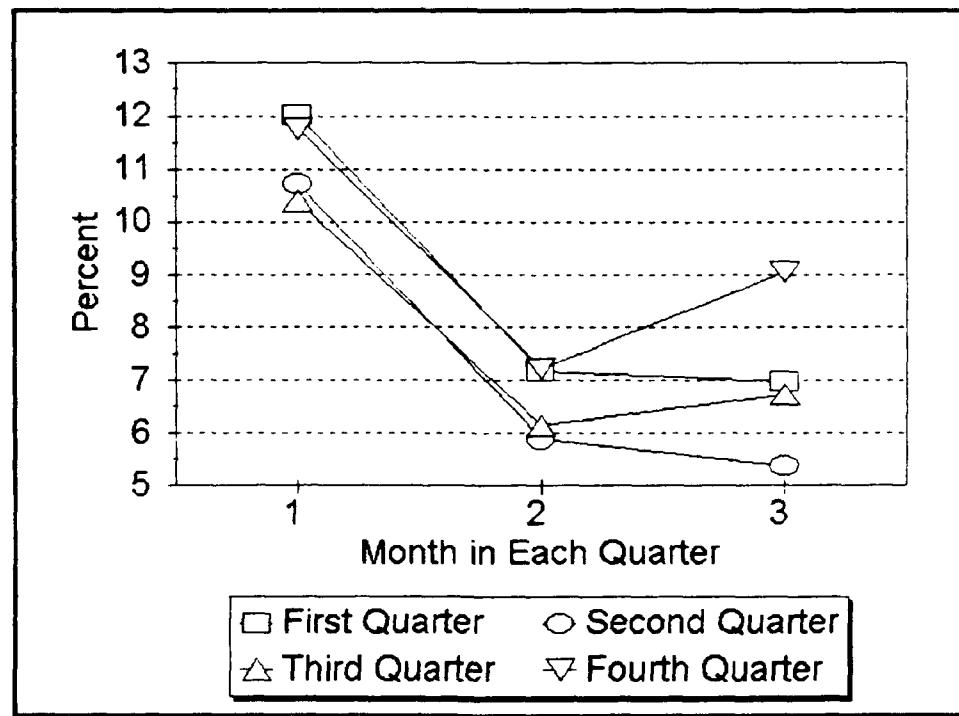


Figure 4.15: O&M Air Force Reserve Average Quarterly Comparison

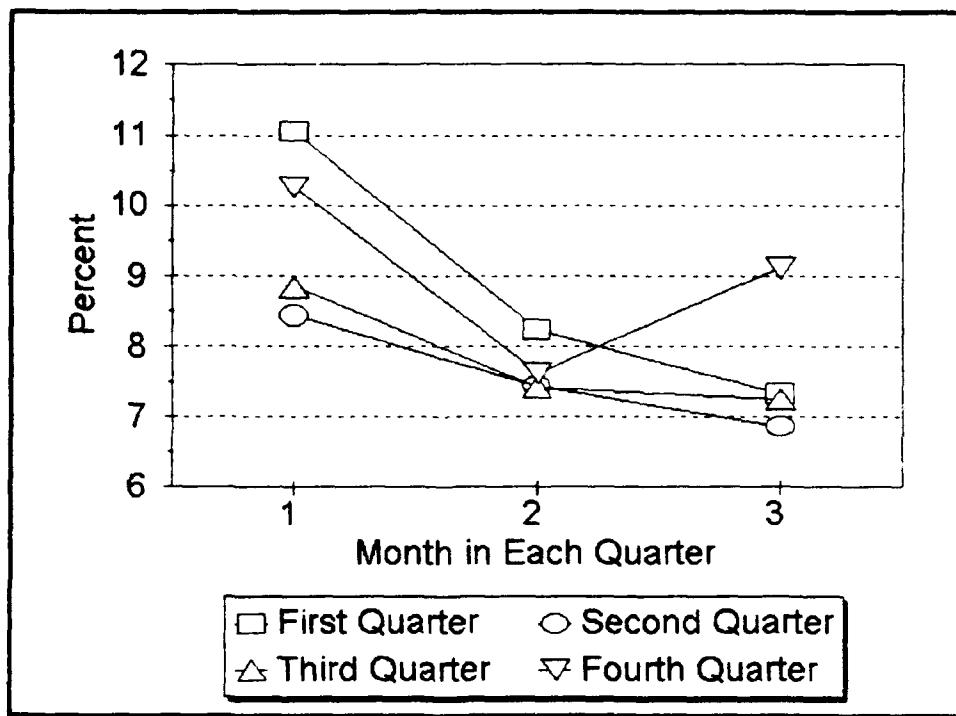


Figure 4.16: O&M Air National Guard Average Quarterly Comparison

Table 4.4 displays the percent of budget authority obligated during the last two months of the fiscal year for these three appropriations between fiscal years 1977 and 1990. The data indicates that the Air Force obligated greater than 20 percent of their O&M budget authority during the last two months of the fiscal year in 1980 for OMAFRES and in 1987 for OMAF.

TABLE 4.4  
 O&M OBLIGATIONS DURING THE LAST  
 TWO MONTHS OF THE FY FOR SELECTED  
 AIR FORCE APPROPRIATIONS  
 (PERCENTAGE OF BUDGET AUTHORITY)

FISCAL YEAR	OMAF	OMAFRES	OMANG
1977	14.12%	13.43%	17.05%
1978	15.64%	13.56%	17.11%
1979	15.77%	11.75%	16.22%
1980	17.50%	<b>22.15%</b>	16.51%
1981	16.75%	15.05%	16.81%
1982	15.60%	15.42%	17.04%
1983	16.40%	15.11%	17.55%
1984	16.20%	15.51%	14.49%
1985	17.48%	14.32%	14.91%
1986	16.90%	17.20%	13.88%
1987	<b>20.15%</b>	19.30%	18.30%
1988	17.04%	17.90%	18.37%
1989	17.82%	18.64%	18.37%
1990	18.32%	18.54%	17.74%

### 3. Object Class Data

The end of fiscal year increase in obligations can also be explained in terms of the categories of goods and services purchased by the Department of the Air Force. The Air Force Comptroller Office provided data for eleven object classes. A majority of the OMAF funds were included in the Personnel Compensation (19%), Other Services (47%), and Supplies and Materials (20%) object classes. The Other Services object class includes areas such as maintenance,

repairs, alterations, storage, and service contracts. The average monthly obligations for these three object classes are presented in Figures 4.17, 4.18 and 4.19 respectively.

Clearly, the Supplies and Materials and Other Services object classes account for the surge in obligations at the end of the fiscal year. Personnel compensation is constant relative to the other object classes. Note that these graphs are based on the average monthly OMAF obligations between FY 1981 and FY 1992.

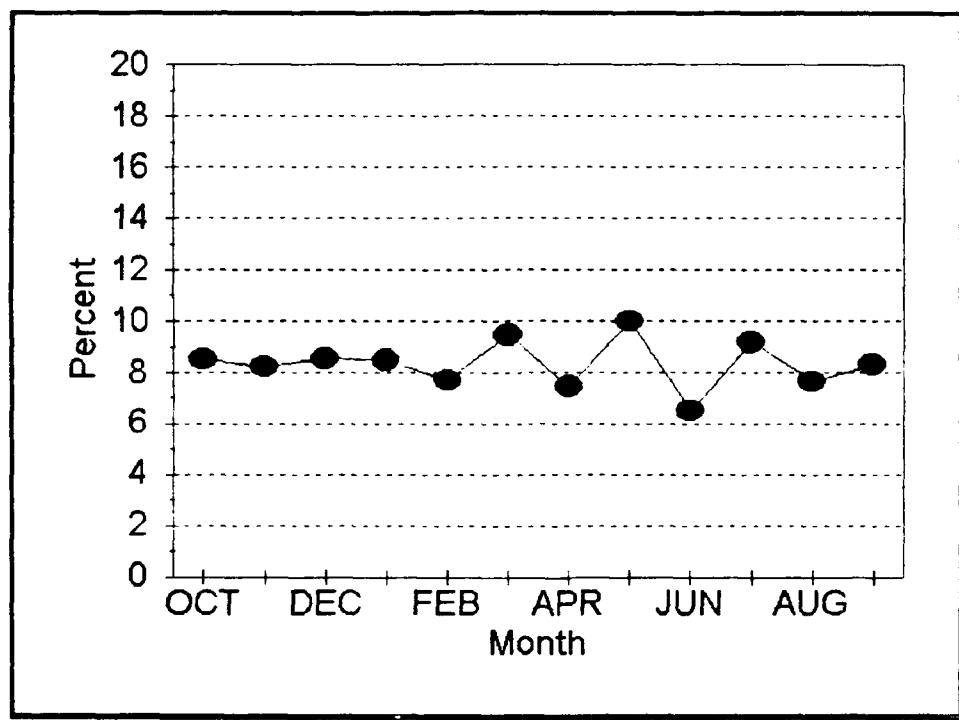


Figure 4.17: O&M Air Force Personnel Compensation

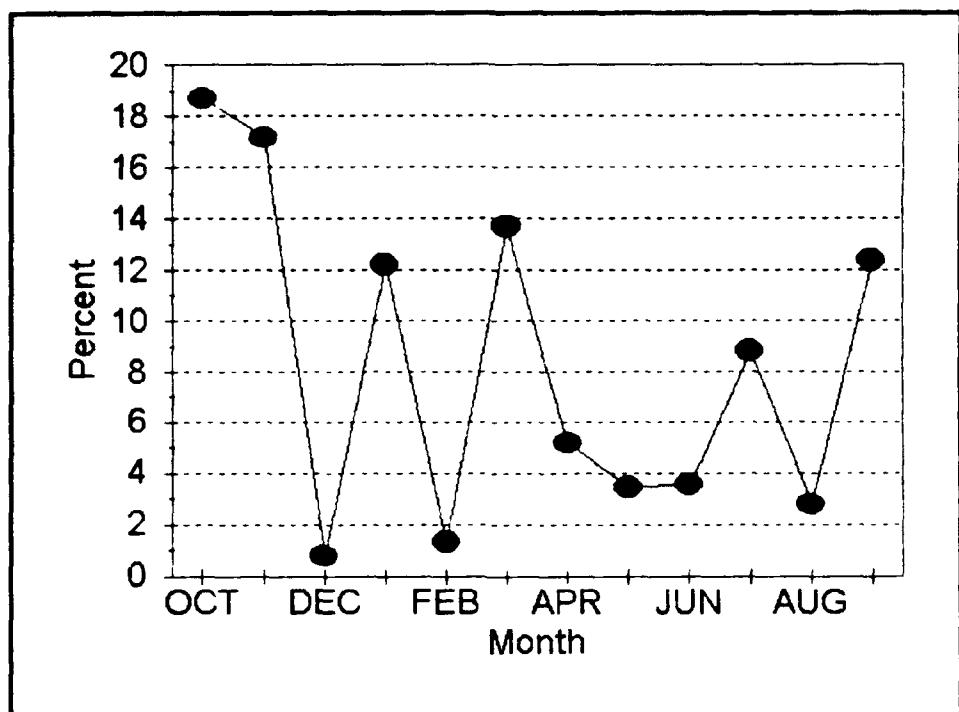


Figure 4.18: O&M Air Force Other Services

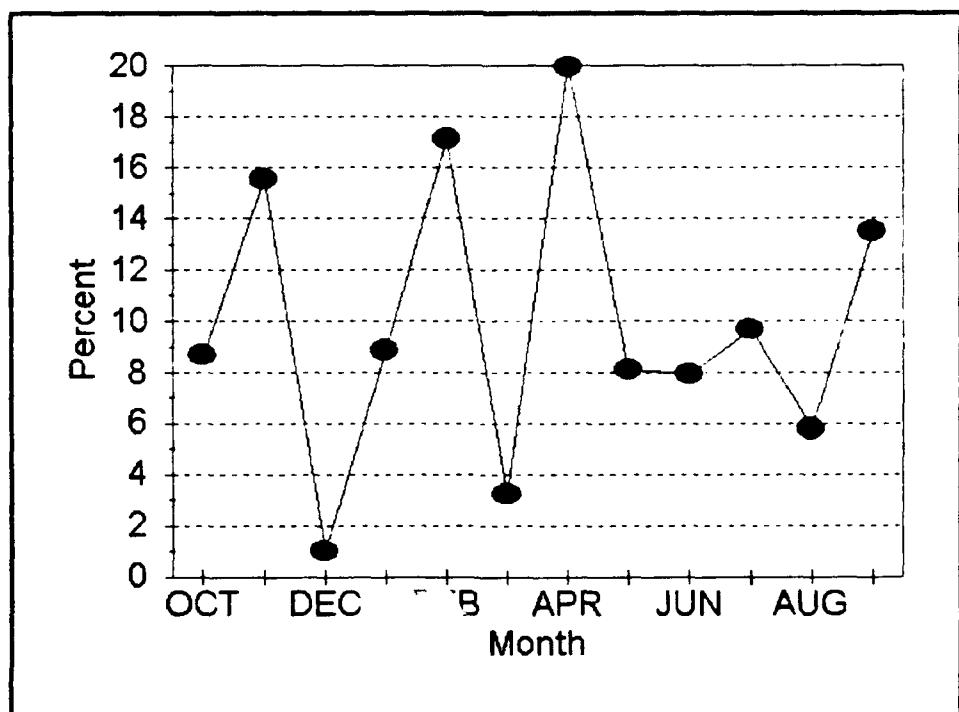


Figure 4.19: O&M Air Force Supplies and Materials

Finally, Table 4.5 includes the fiscal years for Air Force O&M accounts in which greater than 30 percent obligated during the last quarter or greater than 20 percent obligated during the last two months of the fiscal year. This table accounts for all the object classes that contribute to the peak in obligations near the end of the fiscal year.

TABLE 4.5  
O&M AIR FORCE FOURTH QUARTER OBJECT CLASS DATA  
(FY WITH >30% FOURTH QUARTER OBLIGATIONS  
OR >20% OBLIGATIONS IN THE LAST TWO MONTHS OF FY)

OBJECT CLASS	OMAF	OMAFRES	OMANG
Transportation of Persons		1987	
Transportation of Things	1981 1983 1987	1987 1990 1991	1987 1991 1992
Printing and Reproduction	1983-88 1990-92	1987-88 1991-92	1987-92
Other Services	1991	1989-92	1991-92
Supplies and Materials	1984-91	1987-90 1992	1987-89 1992
Equipment	1981-92	1987-92	1987-92
Land and Structures	1984 1987 1989		
Grants, Subsides, and Contributions	1985-91		
Insurance Claims	1983 1986	1990	1990-92
Interest and Dividends	1983-88	1990	1989-90

#### D. DEPARTMENT OF THE ARMY

This section analyzes the Department of the Army's Operations and Maintenance Army (OMA), Operations and Maintenance Army Reserve (OMAR), and Operations and Maintenance Army National Guard (OMNG) Appropriations. Monthly and quarterly obligation patterns are presented as well as the object classes contributing to the surge in obligations near the end of the fiscal year.

##### 1. Annual Obligation Patterns

Compared to the Air Force, Marine Corps, and Navy O&M appropriations, the Army O&M appropriations (Figures 4.20, 4.21, and 4.22) display a relatively flat or constant obligation rate throughout the fiscal year with a more

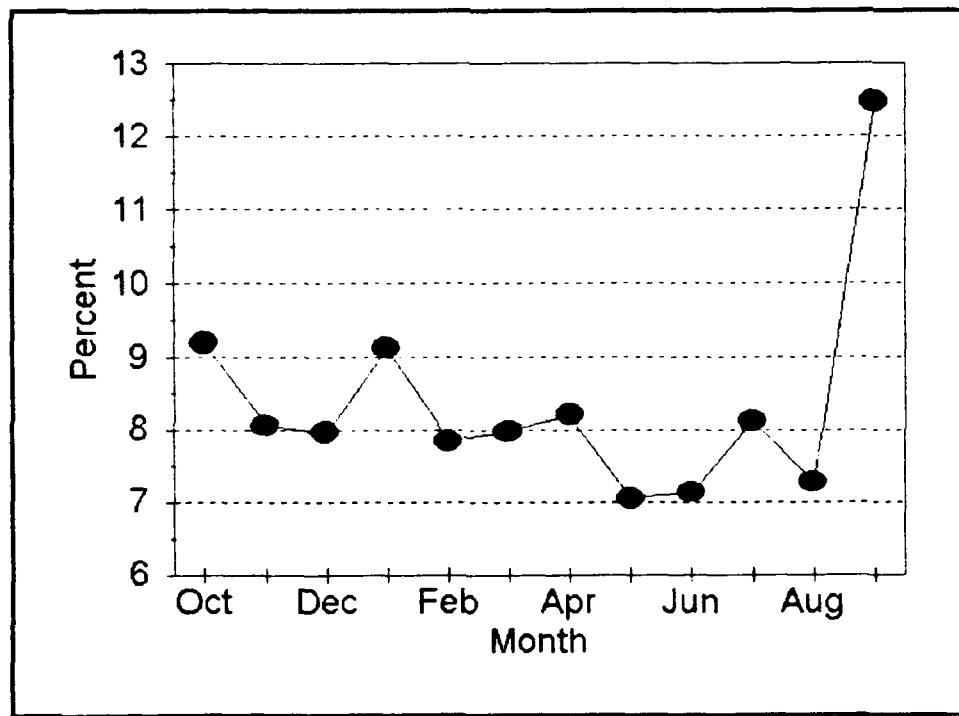


Figure 4.20: O&M Army Average Monthly Obligations as a Percentage of Budget Authority

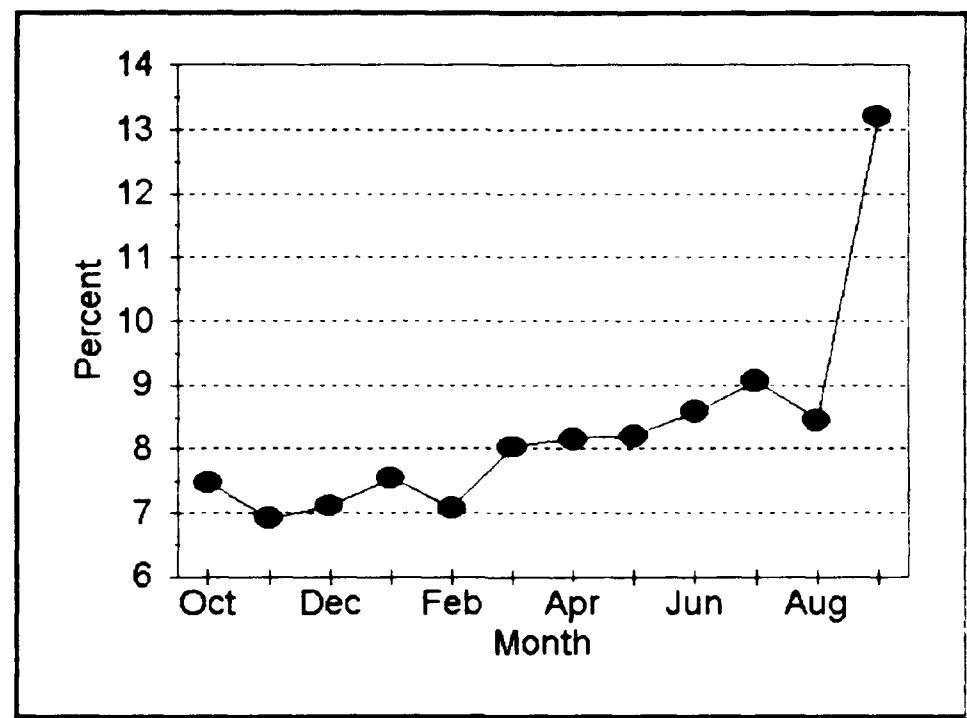


Figure 4.21: O&M Army Reserve Average Monthly Obligations as a Percentage of Budget Authority

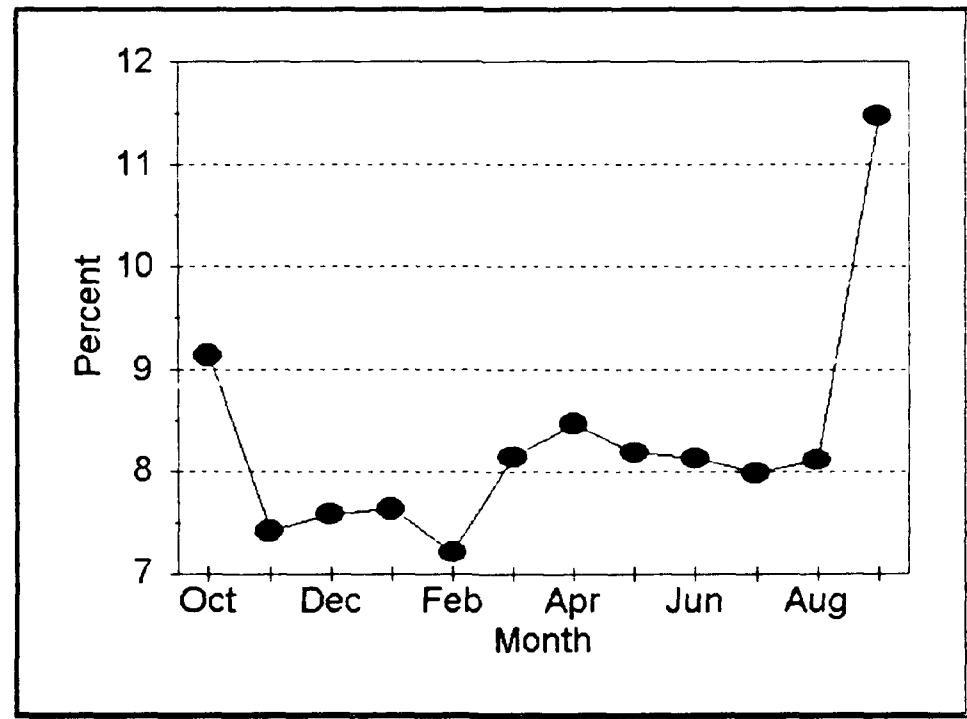


Figure 4.22: O&M National Guard Average Monthly Obligations as a Percentage of Budget Authority

pronounced peak at the end of the fiscal year.

A cyclic pattern does exist each quarter for OMA (Figure 4.20) but it has much less variation than the patterns in the other Military Department's O&M appropriations. The Army obligates more funds during the first month each quarter in the OMA appropriation except for the September increase during the fourth quarter.

The OMAR appropriation (Figure 4.21) displays a gradual increase in the average monthly obligations as the fiscal year progresses, culminating in a large peak in September. Finally, the OMNG appropriation (Figure 4.22) exhibits reasonably constant average monthly obligations except for peaks in September and October.

The average quarterly obligations for OMA, OMAR, and OMNG are shown in Table 4.6. The OMA obligations decrease the first three quarters of the fiscal year and rise sharply during the last quarter. The smallest percentage of obligations occur during the second quarter for OMNG.

TABLE 4.6  
DEPARTMENT OF THE ARMY  
AVERAGE QUARTERLY O&M OBLIGATIONS

	Oct-Dec	Jan-Mar	Apr-Jun	Jul-Sep
OMA	25.21%	24.95%	22.40%	27.86%
OMAR	21.50%	22.67%	24.95%	<b>30.75%</b>
OMNG	24.14%	22.99%	24.78%	27.59%

Finally, the OMAR average quarterly obligations increase every quarter, peaking at a 30.75 percent average during the fourth quarter.

## 2. Fourth Quarter Obligation Patterns

The Army's increases in average obligations during September are larger than those of the other Military Departments. The September surge in obligations is represented graphically in Figures 4.23, 4.24, and 4.25 for the OMA, OMAR, and OMNG appropriations respectively. Compared to the end of other quarters in the fiscal year, September exhibits a **4.78 percent** increase in obligations in OMA. The OMNG and OMAR appropriations exhibit similar

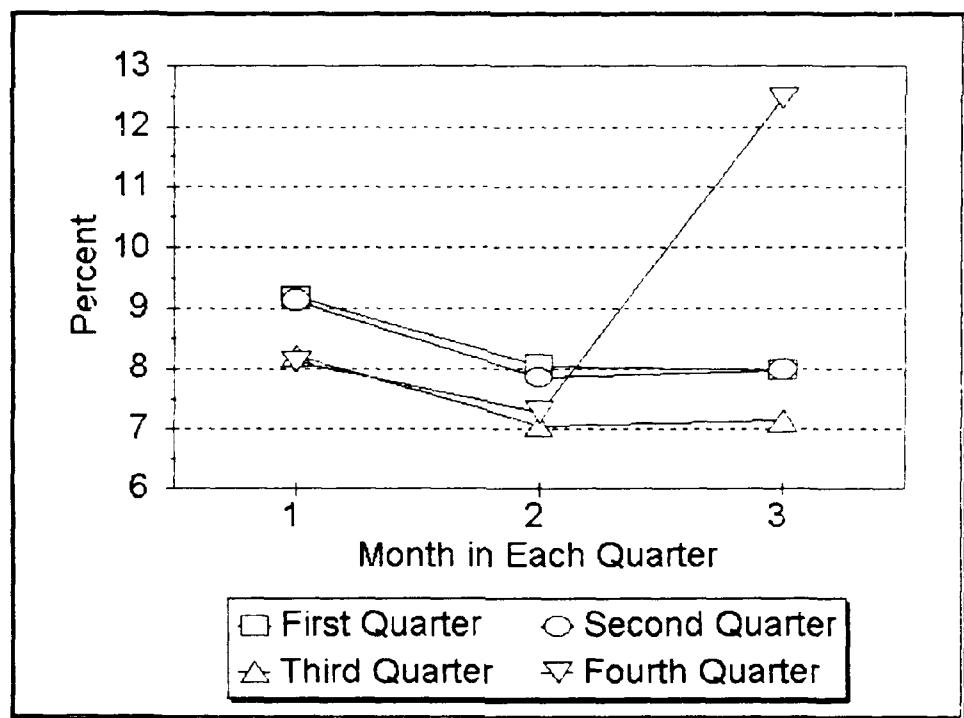


Figure 4.23: O&M Army Average Quarterly Comparison

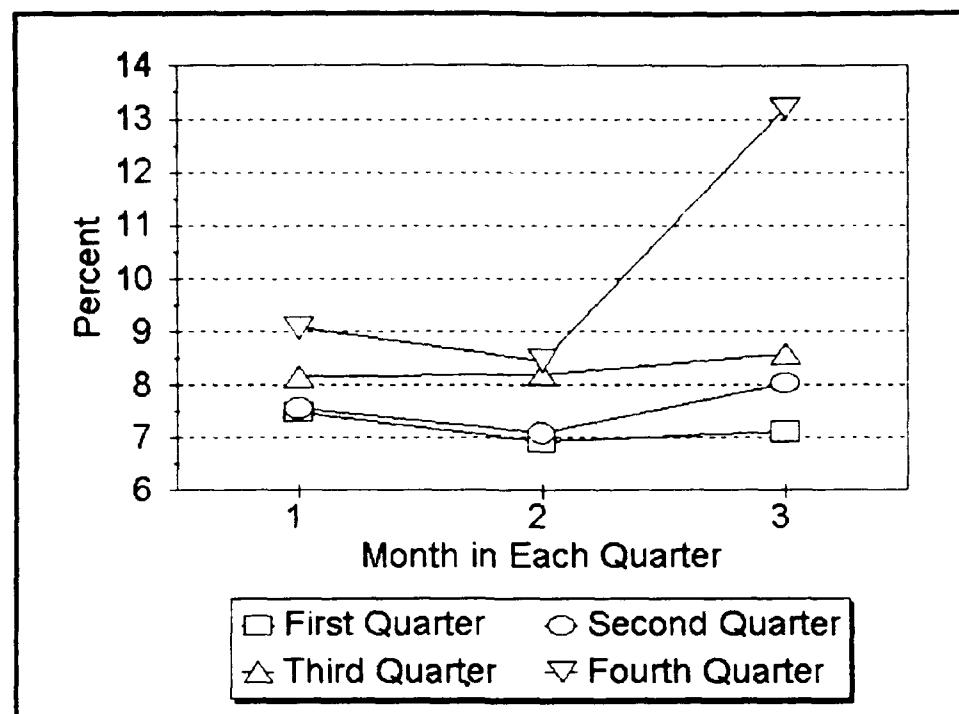


Figure 4.24: O&M Army Reserve Average Quarterly Comparison

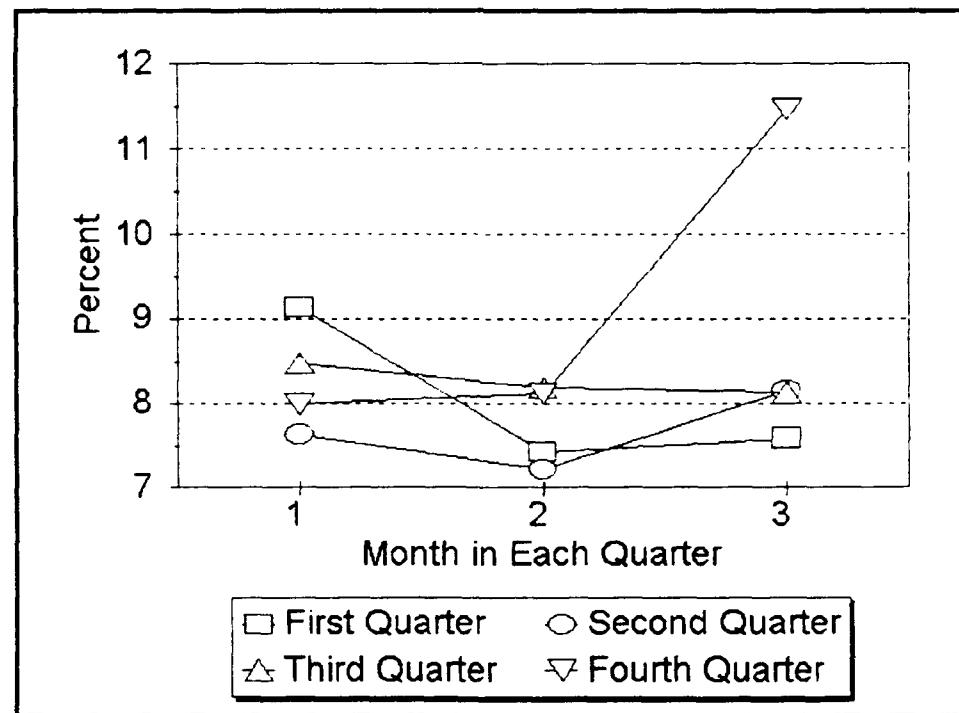


Figure 4.25: O&M National Guard Average Quarterly Comparison

of 3.52 percent and 5.30 percent respectively.

The data from DFAS indicates that the Army obligates very close to the 20 percent limit during the last two months of the fiscal year. Table 4.7 includes a complete listing of these percentages for fiscal years 1977 to 1990.

TABLE 4.7  
O&M OBLIGATIONS DURING THE LAST  
TWO MONTHS OF THE FY FOR SELECTED  
ARMY APPROPRIATIONS (PERCENTAGE OF BUDGET AUTHORITY)

FISCAL YEAR	OMA	OMAR	OMNG
1977	18.00%	20.12%	16.16%
1978	19.22%	18.87%	17.43%
1979	18.64%	18.7%	16.75%
1980	20.62%	19.07%	18.46%
1981	21.2%	19.91%	18.23%
1982	19.06%	24.01%	19.59%
1983	19.69%	23.19%	19.61%
1984	19.24%	23.46%	20.97%
1985	18.76%	20.08%	21.99%
1986	18.86%	21.28%	19.71%
1987	21.33%	24.31%	22.26%
1988	20.13%	25.34%	22.97%
1989	18.89%	21.33%	20.38%
1990	22.61%	23.67%	19.68%

The Army obligates an average of 19.75 percent, 19.59 percent, and 21.66 percent of their annual budget authority during August and September for the OMA, OMNG, and OMAR appropriations respectively. The OMA and OMNG exceed

20 percent in five of the fourteen years surveyed. Furthermore, OMAR exceeds the 20 percent obligation limit in ten of the fourteen years surveyed. However, the 20 percent limit does not apply to the active duty training of reserve components, summer training of the Reserve Officers' Training Corps, or the National Board for the Promotion of Rifle Practice, Army [Ref. 9]. The obligations incurred in the areas exempted from the limit could not be separated from the data. Additionally, the Army's National Board for the Promotion of Rifle Practice has its own appropriation.

The GAO also reported on this area in 1972. Their report states that the Army complied with the 20 percent limit during 1969 and 1970. But, the report also states that the Army obligated \$312,600 from the stock fund at the end of fiscal year 1969 without valid needs for the material in that fiscal year [Ref. 5].

### **3. Object Class Data**

The object class data explains what categories contributed to the surge in obligations at the end of the fiscal year. Similar to the Air Force, a majority of the O&M obligations occurred in the Personnel Compensation (19%), Other Services (42%), and the Supplies and Materials (11%) object classes. As expected, the monthly obligation percentage of Personnel Compensation is nearly constant. The end of fiscal year peak in OMA obligations is caused by

Other Services (Figure 4.26) and Supplies and Materials (Figure 4.27). The same categories accounted for the surge in OMAR and OMNG.

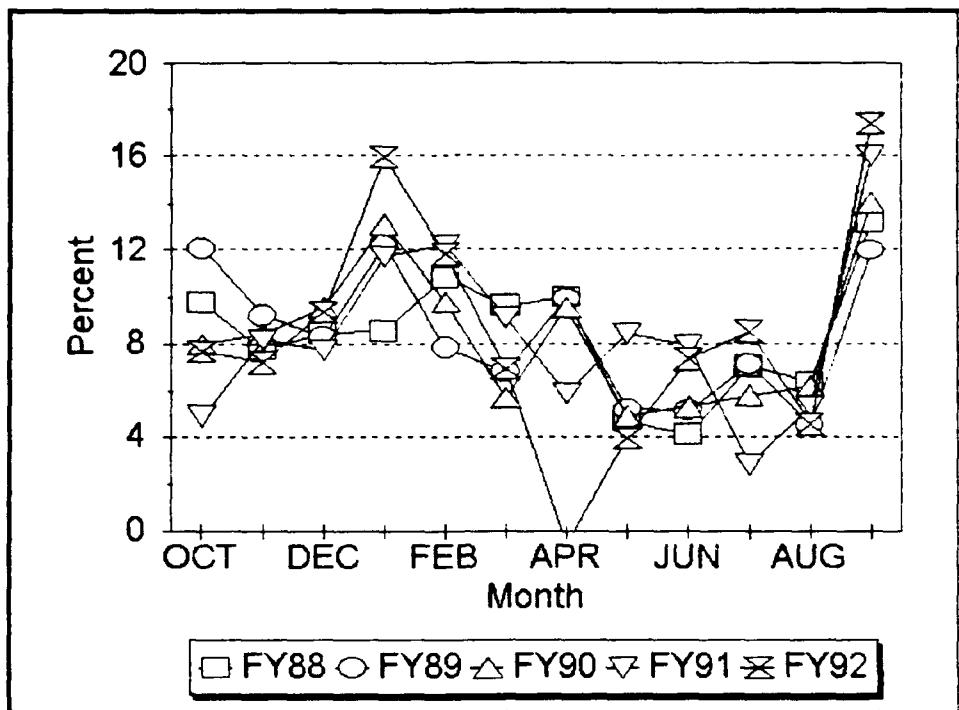


Figure 4.26: O&M Army Other Services

Figure 4.28 displaying the Equipment object class data for OMA is especially interesting. Although the Equipment object class included less than one percent of the total O&M obligations, this class exhibited a huge surge at the end of the fiscal year. September obligations were greater than 30 percent for every fiscal year from 1988 to 1992.

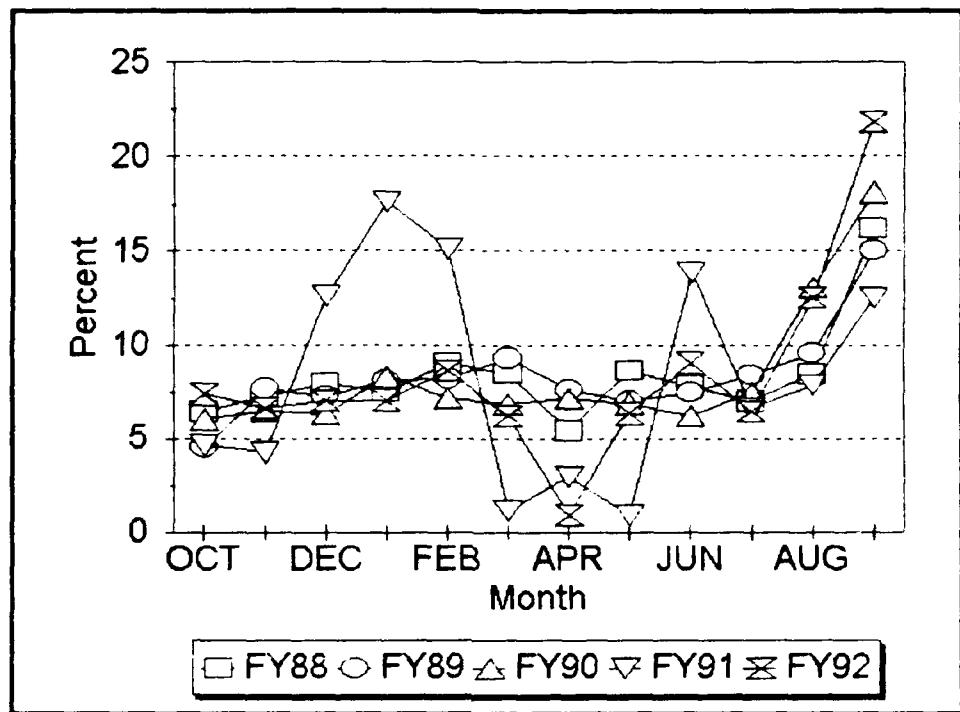


Figure 4.27: O&M Army Supplies and Materials

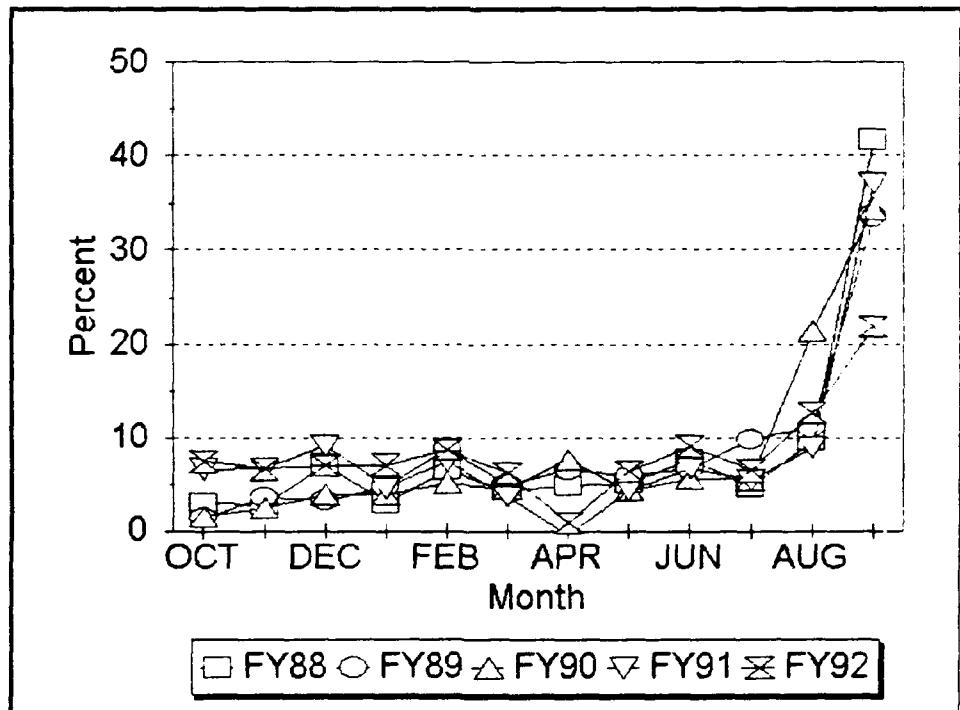


Figure 4.28: O&M Army Equipment

Table 4.8 documents the fiscal years that Army O&M obligations exceeded 30 percent during the last quarter of the fiscal year or 20 percent during the last two months of the fiscal year. These object classes account for the entire peak in obligations that occurs near the end of the fiscal year.

TABLE 4.8  
O&M ARMY FOURTH QUARTER OBJECT CLASS DATA  
(FY WITH >30% FOURTH QUARTER OBLIGATIONS  
OR >20% OBLIGATIONS IN THE LAST TWO MONTHS OF FY)

OBJECT CLASS	OMA	OMAR	OMNG
Transportation of Persons	1990		1986 1991
Transportation of Things	1984-85 1987-88 1991-92	1982 1984-92	1982 1984-88 1991-92
Rent, Comm., Utilities			1989, 1992
Printing and Reproduction	1982-84 1988-92	1982 1984-92	1982-91
Other Services	1990-92	1982, 84-92	1988-89
Supplies and Materials	1982 1984-92	1982 1984-92	1982 1984-92
Equipment	1982 1984-92	1982 1984-92	1982 1984-92
Land and Structures	1982-90 1992	1982, 1984-85, 1988 1991-92	1982-92
Grants, Subsidies, and Contributions	1984, 1986 1988-89 1991-92	1992	
Interest and Dividends	1984, 1992	1986, 1991	1986-88 1990-91
Insurance Claims	1982, 84-86 1988, 91-92		1986-87 1991-92

## E. DEFENSE AGENCIES

The Defense Agencies data, displayed in Figures 4.29 and 4.30, combines the obligations of many agencies. The Operations and Maintenance Defense Agencies appropriation (OMDEFAG) includes the Defense Logistics Agency, the Office of the Secretary of Defense, Defense Contract Audit Agency, and the Defense Medical Support Agency to name just a few. In 1992, the OMDEFAG appropriation included 48 different agencies or services.

Similar to many of the O&M appropriations for the Military Departments, most of the OMDEFAG budget authority is obligated in the first month each quarter. The surge in

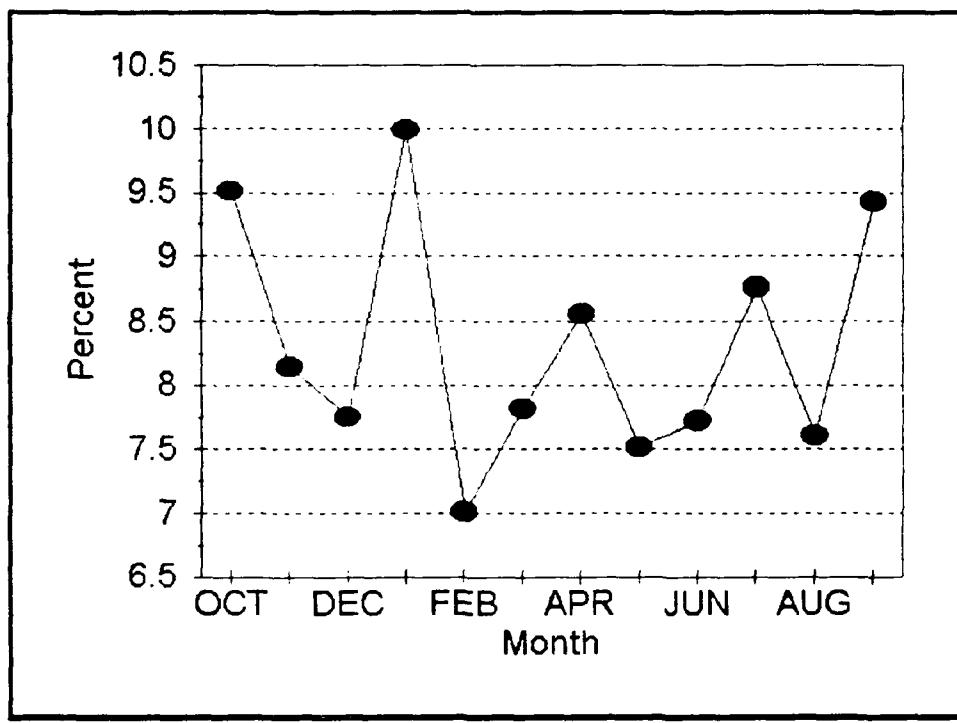


Figure 4.29: O&M Defense Agencies Average Monthly Obligations as a Percentage of Budget Authority

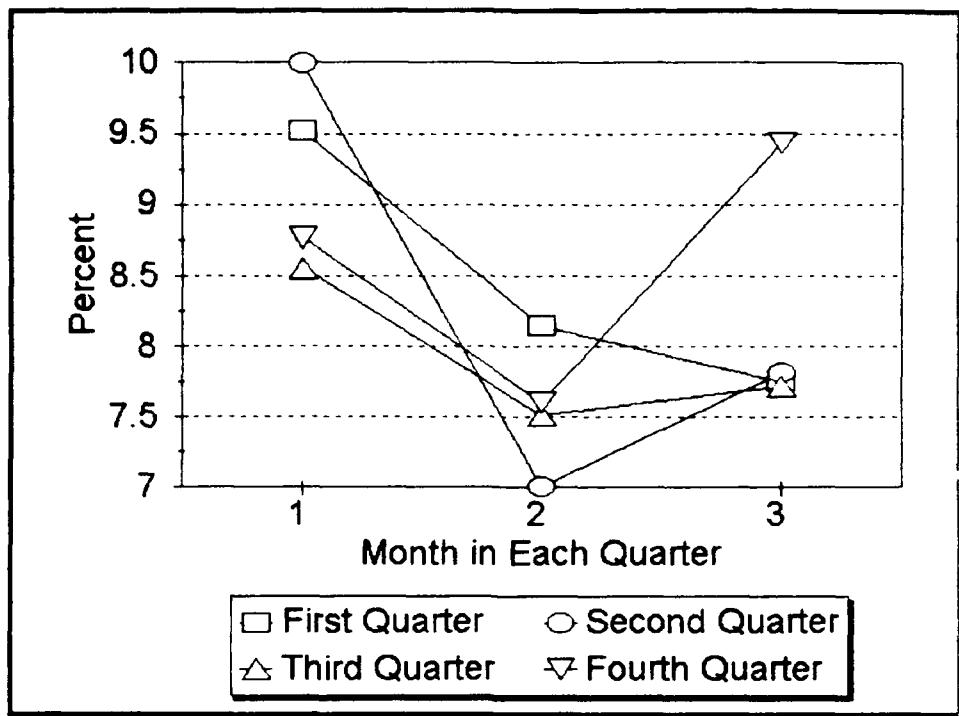


Figure 4.30: O&M Defense Agencies Average Quarterly Comparison

September is the exception.

During the first quarter, the Defense Agencies' average obligations decrease each month. However, in the last three quarters of the fiscal year the smallest amount of obligations occur during the second month of the quarter. The average obligations between FY 1977 and FY 1990 for the four fiscal year quarters are 25.41 percent, 24.81 percent, 23.79 percent, and 25.84 percent respectively. Also, the data has large variations compared to the appropriations discussed earlier (see Appendix B). Six of the twelve months analyzed have standard deviations greater than 1.25 percent of the annual budget authority.

Spending patterns at the end of the fiscal year are similar to the Military Departments. The Defense Agencies' average obligation rate for the last two months of the fiscal year is 17.04 percent. As indicated in Table 4.9, the Defense Agencies have not obligated more than 20 percent limit in the fiscal years covered by this research. Moreover, the average increase in obligations in September is **1.67 percent** of the Defense Agencies' annual budget authority.

TABLE 4.9  
DEFENSE AGENCIES O&M OBLIGATIONS  
DURING THE LAST TWO MONTHS OF THE FY  
(PERCENTAGE OF BUDGET AUTHORITY)

FISCAL YEAR	OMDEFAG	FISCAL YEAR	OMDEFAG
1977	18.42%	1984	16.64%
1978	18.16%	1985	16.79%
1979	18.02%	1986	16.35%
1980	16.94%	1987	16.22%
1981	17.61%	1988	17.30%
1982	17.67%	1989	16.11%
1983	16.06%	1990	16.24%

#### F. SUMMARY

The O&M appropriations analyzed in the previous sections display a cyclic quarterly obligation pattern with a large surge in obligations during September. A weighted average of 11 O&M appropriations, DoD's total average monthly obligations exhibit a pattern similar to the Navy and Air

Force appropriations. On the other hand, the Army O&M appropriations exhibit a flatter obligation pattern throughout the fiscal year with a larger peak in obligations in September.

Even though DoD collectively does not violate the 20 percent limit for obligations during the last two months of the fiscal year, some agencies obligate O&M funds in excess of this limit. Only OMN, OMANG, and OMDEFAG did not exceed the 20 percent limit between FY 1977 and FY 1990.

The surge in obligations at the end of the fiscal year can be attributed to obligations in several categories. These categories include supplies and materials, equipment maintenance, and service contracts. Although small in monetary value, a large portion of O&M equipment purchases occurred in September.

Chapter V uses the collective data presented in this chapter to explain the incentives provided to DoD managers responsible for the obligation of O&M funds. The incentives provided to DoD managers by current laws are reflected directly in the obligation patterns documented in this chapter.

## **V. EXPLANATIONS FOR END OF FISCAL YEAR OBLIGATION SURGES**

Current laws and practices provide many often conflicting incentives to DoD managers responsible for obligating O&M funds. These incentives are reflected directly in the obligation patterns documented in Chapter IV. Focusing on the surge in obligations at the end of the fiscal year, the following sections discuss how the present laws influence the obligation patterns. The following chapter discusses how the single year accounting concept changes the present incentives for managers controlling the O&M appropriations.

Congress asserts its largest influence through the United States Code. Thus, most of the following sections rely extensively on the codified law. Specifically, Title 31 Subtitle II, The Budget Process, and Title 10, The Armed Forces, contain most of the laws discussed in this chapter. Note that many of the sections in Title 31 Subtitle II apply to the O&M appropriation but only a few of the sections directly influence the obligation patterns of O&M funds. The annual DoD Appropriation and Authorization Acts are the other two key pieces of legislation affecting the obligation patterns.

#### **A. APPLICATION OF O&M APPROPRIATIONS**

Title 31 Section 1301 prohibits DoD managers from obligating O&M funds for purposes other than the original intent of the appropriation. Specifically, this law states:

Appropriations shall be applied only to the objects for which the appropriations were made except otherwise provided for by law. [Ref. 10]

This requirement to use the right "color" of money reduces the manager's flexibility. It is just one example of the centralized control the Congress exerts. The "power of the purse" sets the tone for budget execution.

The Military Departments give front line managers as much control as possible over the execution of their budget. For example, "it is Air Force policy to provide optimum fund flexibility at all levels subject to those limitations and restrictions established by the legislative and executive branches." [Ref. 11] The Air Force encourages the acceptance of budget responsibility at the level of the organization where the financial resources are consumed.

[Ref. 11]

Despite their centralized control of funds, Congress realizes that too much control can reduce the effective use of appropriated funds. The last phrase in the law quoted above refers to laws governing the transfer and reprogramming of funds. Some flexibility must be built into the system to allow the budget to adapt to changing

circumstances during the fiscal year. Unplanned requirements, changed operating schedules, etc., may require funds to be obligated for purposes other than the original justified purpose.

#### **B. ANTI-DEFICIENCY ACT**

The Anti-Deficiency Act provides a forceful incentive for DoD managers not to obligate more funds than are available and not to obligate funds before an appropriation is enacted unless provided for by a Continuing Resolution.

The Anti-Deficiency Act is the common name for Title 31 Sections 1341, 1349, 1350, 512-14, and 1517-19.

Section 1341 includes limits on the expenditure and obligation of funds. The law states that:

An officer or employee of the United States Government... may not (A) make or authorize an expenditure or obligation exceeding an amount available in an appropriation for the expenditure or obligation; or (B) involve the government in a contract or obligation for the payment of money before an appropriation is made unless authorized by law. [Ref. 10]

The "bite" to this law is provided by penalties in Sections 1349 and 1350. Personnel violating Section 1341 are subject to administrative discipline and criminal penalties that can include suspension without pay, removal from office, fines up to \$5,000, and imprisonment for two years. [Ref. 10] The same penalties apply to officials that authorize exceeding apportionments, allotments, or operating budgets.

Thus, the DoD managers have an incentive not to obligate funds beyond the legal limits. On the other hand, DoD managers have an incentive to obligate all funds in order to maximize the Department's total benefits (utility), since funds not obligated are lost at the end of the fiscal year. Managers walk a "thin line". An official obviously does not want to violate the Anti-Deficiency Act but he also does not want to have a large sum of unobligated funds at the end of the fiscal year.

### C. INCENTIVE TO SPEND

The dilemma discussed above results in a strong incentive for managers to spend all their funds and possibly to waste money in the process. In the introduction to *Reinventing Government*, David Osborne and Ted Gaebler state that the federal budget system encourages managers to waste money.

If they don't spend their entire budget by the end of the fiscal year, three things happen: they lose the money they have saved; they get less next year; and the budget director scolds them for requesting too much last year. Hence the time honored rush to spend all funds by the end of the fiscal year. [Ref. 12]

However, their description is only partially true and incomplete. The remainder of this section will provide a more complete view on this subject based on current laws and economics.

Title 31 Section 1502 discusses appropriation account balances available at the end of the fiscal year. The law states that:

The balance of an appropriation or fund limited for obligation to a definite period is available only for payment of expenses properly incurred during the period of availability or to complete contracts properly made within that period of availability and obligated consistent with section 1501 [documentary evidence requirement for government obligations]. [Ref. 10]

A balance remaining in an appropriation account at the end of the period of availability must be returned to the general fund of the Treasury, according to this section. This is reiterated in the DoD Appropriation Act's general provisions every year. This provision states that "no part of any appropriation contained in this Act shall remain available for obligation beyond the current fiscal year, unless expressly so provided herein." [Ref. 13]

Thus, when the O&M appropriation expires at the end of the fiscal year, any remaining funds, with few exception, are lost. This gives managers a very strong incentive to spend all available funds. Analysis of the O&M obligation data for the Department of Defense between fiscal year 1977 and fiscal year 1990 indicates that most managers are very skilled at obligating all of their funds before the end of the fiscal year. During the 14 years analyzed in this study, over 99 percent of the O&M funds were obligated before the appropriation expired at the end of the fiscal year.

Ideally, DoD managers would obligate funds for current fiscal year needs before the fiscal year ends. However, it would be naive to assume that all the obligations represent current fiscal year needs. Part of the surge in obligations in September may be caused by obligations that are not bona fide current fiscal year needs. This illegal use of funds remaining at the end of the fiscal year might relieve funds in the next fiscal year. Thus, managers would be funding next fiscal year's requirements with current O&M funds.

For example, the GAO asserts that DoD industrial funds have illegally carried O&M funds over to the next fiscal year. [Ref. 6]

In a 1984 report to the Chairman, House Appropriations Committee, [the GAO] reported that the six DoD industrial fund activities reviewed, including two Army Material Command (AMC) activities, carried over about \$35.7 million of [\$192.5 million] O&M appropriations from fiscal year 1982 to 1983 through the improper use of industrial funds, thereby extending the life of one year appropriations which would have otherwise expired. [Ref. 13]

The DoD disputed \$2.1 million of the total funds that GAO claimed were illegally carried over to the next fiscal year. The primary causes for the improper carryover of funds into the next fiscal year were either the obligating activity not having a legitimate current need for the good or service or the performing activity not promptly starting the work before the end of the fiscal year. Although GAO could not statistically project the results from a few reports to include all DoD industrial funds, they believed

that the problem existed to some degree at other commands.

[Ref. 13]

Even during a follow up review of Army activities in 1986, the GAO determined that \$2.9 million of the \$3.3 million O&M funds carried over to the next fiscal year had been improperly obligated. [Ref. 14] Obviously, these actions violate Title 31 Section 1502 and the general provisions of the DoD Appropriation Act.

Besides using the current laws, the incentive to spend can also be explained from an economic standpoint. Managers are making decisions on how to allocate scarce resources among many competing requirements. The spending incentive could be described as a utility maximization problem. Utility is defined as the level of satisfaction that a person or organization receives by consuming a good or purchasing a service [Ref. 15]. Whether serving at the local command, major command, Military Department, or DoD level, a manager will try to maximize the total utility from the resources he is responsible for controlling. While considering all the goods and services a manager must acquire to meet organizational requirements, the manager ranks these goods and services in a relative order of preference. He then considers every good and service relative to the other options when making choices and tradeoffs to maximize the utility of an organization. In this case, managers may also receive utility simply by

obligating funds, even though the items purchased were unnecessary.

Thus, whether analyzed with respect to current laws or basic economics, the present rule-driven budgeting system provides DoD managers with a strong incentive to obligate all O&M funds. It is also the main factor contributing to the surge in spending during September.

#### **D. ADDITIONAL FACTORS**

Other factors clearly contribute to the end of fiscal year spending surge. Some funds may be wasted in the rush to obligate all the O&M funds at the end of the fiscal year. This does not maximize utility because the funds are not necessarily used in the United States' best interest. Managers should compare the marginal utilities of the goods and services being considered for purchase and select the item with the largest marginal utility. Pressured to obligate all the remaining funds, managers may not have the time available to properly evaluate their options and ensure that they are making the proper choice. However, as long as an unfunded current fiscal year requirement exists, the funds are not wasted. Total utility will increase although possibly not by as much as it would have if the managers had sufficient time to evaluate their options.

Mr. Don Shycoff, the former Principal Deputy DoD Comptroller, has mentioned the possibility of extending the

period of availability of O&M appropriations to 15 months to enhance the utilization of O&M funds. [Ref. 16] Extending the period of availability by three months would give managers time to properly evaluate options and wisely use funds. Assuming that the funds would not be taken away from higher authority near the end of the fiscal year, managers would not be motivated to obligate all of their funds by September 30. A small surge in obligations may occur at the end of the fifteen month period but it will be much less than the current surge in obligations because funds are appropriated based on estimated requirements for 12 months. Given the obligation trends under current laws, extending the period of availability to 15 months should improve the utilization of funds. However, it will not change or eliminate the incentive to spend funds.

Furthermore, some managers may delay spending funds in order to keep reserve funds available for emergencies. Legal authority to establish reserves is found in Title 31 Section 1512, Apportionments and Reserves. Section 1512 states that:

In apportioning or reapportioning an appropriation, a reserve may be established only (A) to provide for contingencies; (B) to achieve savings made possible through or by changes in requirements or greater efficiency of operations; (C) as specifically provided by law. A reserve established under this subsection may be changed as necessary to carry out the scope and objectives of the appropriation concerned. [Ref. 10]

To provide for contingencies, the Chief of Naval Operations sets aside approximately 2% of the OMN budget at the beginning of the year. [Ref. 17] This contingency reserve is usually released to commands after a thorough midyear review of all O&M requirements. However, in recent years with the military downsizing and budgets shrinking, the midyear review has also been a time for the Navy to look for excess funds to recoup from commands for other priorities. Essentially, if a base is obligating at a rate below the command's scheduled rate of obligation, they may lose some funds. The Navy's midyear review process is completed at a point in the fiscal year that the release of funds does not contribute to an end of fiscal year surge in obligations.

The Army has a similar contingency policy. The Army Chief of Staff typically holds \$100 million (approximately 0.5%) of the OMA funds in reserve at the beginning of the fiscal year. In FY 1993 the Army Chief of staff held only \$50 million in reserve due partly to the downsizing of the Army and shrinking budgets. The reserve funds are distributed towards the end of the fiscal year resulting in a larger surge in obligations in September. [Ref. 18]

Contrary to the Army and Navy policies, the Air Force Chief of Staff does not hold any OMAF funds in reserve. All O&M funds are distributed to the commands through the officer responsible for OMAF. [Ref 19] Thus, this factor

does not contribute to the surge in obligations near the end of fiscal year for the Air Force.

Another reason for the surge is delayed enactment of the O&M appropriations. "Members of Congress and agency officials have acknowledged that some year-end spending surges may be the result of agency funds not being appropriated in a timely manner." [Ref. 6] This problem was illustrated in Table 2 in Chapter II. The DoD Appropriation Act was only passed before the start of the fiscal year three times during the fourteen year period analyzed by this study. This problem can cause DoD managers to delay planning and execution until the amount and timing of funds are known [Ref. 6].

Obligations during the last two months of the fiscal year are limited by law to 20 percent. According to the Comptroller General, "this provision [of the DoD Appropriation Act] was designed to discourage obligating excess funds at yearend for items that are not valid requirements of the specified year." [Ref. 20] Although some individual O&M appropriation accounts analyzed in Chapter IV appear to have some difficulty complying with this limit, collectively the DoD O&M appropriations obligate below the 20 percent limit. This law causes the end of year spending surge to be less than it would be otherwise.

The GAO contends that the 20 percent limit is difficult to administer and does not address the real problems with

budget execution which are the current incentives provided by statutory law. However, the GAO does support the limit as a temporary measure until changes are made in obligation practices. [Ref. 6]

Lastly, the DoD procurement system may be responsible for part of the surge in obligations near the end of the fiscal year. This research has focused most of its attention on the DoD managers and how various incentives and requirements influence their behavior, but procurement personnel could play a significant role in determining the obligation trends. If a long period of time passes before they obligate funds for the goods and services that managers request, procurement personnel will contribute to the surge in obligations at the end of the fiscal year. A prudent manager will submit his request for contracting services far enough ahead of the end of the fiscal year to beat the work overload experienced by contracting activities near the end of September.

#### **E. QUARTERLY OBLIGATION PATTERNS**

All 11 O&M appropriation accounts studied in this research exhibited a cyclic quarterly obligation pattern. O&M funds are apportioned quarterly and these apportionments are subject to the Anti-Deficiency Act. The quarterly pattern is attributed to Title 31 Section 1512, Apportionment and Reserves. The law states that:

An appropriation available for obligation for a definite period should be apportioned to prevent obligation or expenditure at a rate that would indicate a necessity for a supplemental or deficiency appropriation for the period....An apportionment may be reapportioned under this section. An appropriation subject to apportionment is apportioned by (A) months, calendar quarters, operating seasons, or other time periods and/or (B) activities, functions, projects, or objects; or (C) a combination of the ways referred to in clauses (A) and (B) of this paragraph. [Ref. 10]

The O&M appropriations are apportioned by calendar quarters by the Office of Management and Budget under the authority of Title 31 Section 1513. The apportionments, available on a cumulative basis unless reapportioned by OMB, are based on input from the Military Departments through the Secretary of Defense. According to Title 31 Section 1514, the Secretary of Defense is then responsible for enacting regulations to administratively control and divide the apportionment. The system is designed to limit obligations to the amount apportioned, to fix responsibility for violations of the apportionments, and to provide a simple way to administratively divide the appropriation among commands. Apportionments are an effective tool for management to prevent the rapid obligation of a large portion of the total funds early in the fiscal year. The bottom line resulting from the quarterly distribution of funds is the cyclic quarterly trend in the obligation of O&M funds documented in the previous chapter. [Ref.10]

In summary, many factors contribute to the surge in O&M obligations near the end of the fiscal year. Present legal

requirements governing the obligation of appropriated funds and the incentives that some laws provide to managers motivate them to spend all their funds before the end of the fiscal year. This is the leading cause of the surge in obligations documented in Chapter IV. Other factors discussed that affect the size of the surge in obligations at the end of the fiscal year include reserve funds, delayed enactment of the DoD Appropriation Act, managers illegally extending O&M funds beyond the one year period of availability, the 20 percent limit, and the Anti-Deficiency Act. The next chapter presents the conclusions and the recommendations concerning O&M obligation patterns, O&M accounting, and the single year accounting system.

## **VI. CONCLUSIONS AND RECOMMENDATIONS**

The laws and policies governing the obligation of O&M funds provide incentives which have a significant impact on budget execution in DoD. The incentives are reflected directly in the obligation patterns documented in this research. The conclusions and recommendations from the research on O&M obligation patterns are presented below.

### **A. CONCLUSIONS**

The "end of year dump" is readily apparent in the obligation statistics from FY 1977 to FY 1990 displayed in Table 6. The September surge in obligations in Table 6 is determined by comparing obligations for September with the average obligations for the other end of quarter months. This method is used for two reasons. First, O&M appropriations display a quarterly obligation pattern. Secondly, the main difference between the last months of the first three quarters of the fiscal year and the last month of the fourth quarter is that unobligated funds from apportionments are carried forward during the first three quarters. Unobligated funds expire at the end of the fourth quarter. The difference between the obligation rates during September and the last months of previous quarters is the surge at the end of the fiscal year.

Overall, DoD managers obligated an average of 17.50 percent of the total O&M budget authority during the last two months of the fiscal year. The Army's OMAR

TABLE 6  
END OF FISCAL YEAR OBLIGATION SURGES

APPROPRIATION	FY EXCEEDING THE 20% LIMIT FOR AUGUST AND SEPTEMBER	SEPTEMBER SURGE IN OBLIGATIONS (PERCENTAGE OF BUDGET AUTHORITY)
O&M Navy		3.56%
O&M Navy Reserve	1979-80	3.20%
O&M Marine Corps	1977-84, 1988, 1990	5.96%
O&M Marine Corps Reserve	1990	1.98%
O&M Air Force	1987	4.34%
O&M Air Force Reserve	1980	2.69%
O&M Air National Guard		1.96%
O&M Army	1980-81, 1987-88 1990	4.78%
O&M Army Reserve	1977, 1982-90	5.30%
O&M Army National Guard	1984-85, 1987-89	3.52%
O&M Defense Agencies		1.67%
<b>TOTAL</b>		<b>3.52%</b>

appropriation (21.66%) was the only O&M account to average over 20 percent of their obligations during the last two months of the fiscal year. Only two O&M appropriations, OMMC (31.67%) and OMAR (30.75%), had an average of over 30

percent of their obligations occurring in the last quarter of the fiscal year.

The average increase in obligations during September is 3.52 percent of DoD's O&M budget authority. In monetary terms, this would be \$2.98 billion of the O&M budget authority in the 1992 DoD Appropriation Act. The quarterly apportionment of O&M funds was also reflected in the obligation patterns which displayed a quarterly cycle with a peak at the end of the fiscal year.

The surge in O&M obligations at the end of the fiscal year can also be explained in terms of object classes for the Army and Air Force and elements of expense for the Navy. Because the Department of the Navy reports object class data on a statistical basis, the Navy's object class data was not useful for this analysis.

In all three Military Departments, the managers' purchases of supplies and materials, equipment maintenance such as ship and aircraft overhaul, and service contracts (Other Services) accounted for most of the increase in obligations near the end of the fiscal year. Although small in monetary value, other categories of purchases had a significant portion of their total obligations occurring near the end of the fiscal year. These categories include equipment purchases such as furniture, tools, machinery, ADP products, and armaments, transportation of things, POL

(petroleum, oil, and lubricants), printing and reproduction, and land and structures.

These findings differed slightly from previous reports that investigated total DoD spending during the fourth quarter. Discussed in Chapter II, the GAO issued two reports which covered FY 1977 to 1979 and FY 1982 to 1984. Based on quarterly object class data, they identified Transportation of Things, Transportation of Persons, Printing and Reproduction, Supplies and Materials, and Land and Structures as contributing to the surge in obligations near the end of the fiscal year. Except for the Army in FY 1977-1979, the GAO did not identify Other Services and they never identified the Equipment object classes as problem areas. This happened because the GAO studied quarterly obligation rates which masked large variations in the monthly obligation rates. The GAO also erroneously used Navy object class data for their study. The Navy's object class data is reported on a statistical basis and therefore exhibits no variation. Thus, the GAO findings for the Navy are misleading and it reduced the variation in the actual total obligation percentages for DoD in their report.

The analysis of the data determined that the increase in O&M obligations near the end of the fiscal year is significant. The size of the surge is influenced by laws concerning budget execution. These laws provide the following restrictions and incentives to managers:

1. The centralized, hierachial and rule driven budget system enacted by Congress to control funds requires managers to obligate funds which are divided into many narrowly defined line items. The revolving funds and the system of reprogramming and transferring funds are a few of the main systems developed by Congress to provide flexibility to the budget execution process.
2. The Anti-Deficiency Act provides a strong incentive for DoD managers not to obligate more funds than are available, not to obligate funds before an appropriation is enacted, and not to under-obligate funds which, when corrected later, could cause an Anti-Deficiency Act violation.
3. Managers have a very strong incentive to spend all their funds before the end of the fiscal year. They may also waste some of the money as they rush to obligate funds because of the limited time available to evaluate alternative purchase requests near the end of the fiscal year. With few exceptions, a balance remaining in an O&M appropriation account when it expires is no longer available for obligation. Thus, managers try to obligate all funds in order to maximize the utility from purchased goods and services. This research found that over 99 percent of O&M funds in DoD were obligated before the appropriation expired.
4. Present laws provide incentives for managers to obligate funds only for bona fide needs in the current fiscal year.
5. The DoD Appropriation Act requires DoD managers to limit obligations to no more than 20 percent of their funds during the last two months of the fiscal year. Eight of the 11 O&M appropriations analyzed have exceeded this limit.
6. Combined, the incentives listed above have managers walking a thin line. On the one hand, they do not want to violate the Anti-Deficiency Act but they also do not want to have funds remaining in their O&M account when the appropriation expires at the end of the fiscal year.

The size of the increase in obligations near the end of the fiscal year is influenced by factors other than those listed above. Managers take many other actions that

directly affect the surge in obligations near the end of the fiscal year. These factors include:

1. Some managers delay spending funds in order to keep reserve funds available for emergencies. United States Code Title 31 allows the establishment of reserves to provide for contingencies. The Army releases funds near the end of the fiscal year which contributes to their large surge in obligations in September. However, the Navy releases funds after a thorough review of O&M requirements during mid-year review. The Air Force Chief of Staff does not maintain an O&M reserve.
2. Delayed enactment of the O&M appropriations contributes to the problem. Funds are usually not appropriated until well into in the fiscal year. The DoD Appropriation Act was passed before the start of the fiscal year in only three of the 14 years analyzed in this study.
3. The law limiting obligations during the last two months of the fiscal year to 20 percent tries to reduce the increase in obligations near the end of the fiscal year. It was designed to discourage the obligation of excess funds near the end of the fiscal year for goods and services that are not current fiscal year needs. The GAO contends that the 20 percent limit is difficult to administer and does not address the real problem with budget execution. This problem is the current incentive structure analyzed in the research. The GAO does support the 20 percent limit as a temporary measure until changes are made in obligation practices. [Ref. 6]
4. Illegal use of appropriated funds does occur. Obligations may not be for bona fide needs in the current fiscal year. Also, managers have illegally extended the life of O&M appropriations beyond the current fiscal year. For example, in fiscal year 1982, six DoD industrial funds illegally extended the one year period of availability of \$35.7 million of the \$192.5 million O&M funds reviewed. The GAO believes that this type of problem exists to some degree at other commands. However, GAO cannot statistically project their findings at several commands to include all DoD industrial activities. [Ref. 13]
5. This research has focused its attention on the DoD managers and how various incentives and requirements

influence their behavior, but procurement personnel could play a significant role in determining the obligation trends. If they wait for a long period of time before obligating the funds for the goods and services that managers request, they will contribute to the surge in obligations. A prudent manager will submit his request for contracting services far enough ahead of the end of the fiscal year to beat the work overload experienced by contracting activities near the end of September.

The last item listed above represents an opportunity for additional research into the procurement system's contribution to the surge in obligations. Purchases of supplies, materials, and equipment contributed significantly to the surge in obligations and this may be greatly influenced by the procurement system. Furthermore, this research on O&M obligation patterns presents the background analysis needed to start the development of a model to predict future obligations. Such a prediction tool will assist in budget execution.

#### **B. RECOMMENDATIONS**

Four recommendations based on the analysis of the O&M spending patterns, the current laws and regulations governing the obligation of O&M funds, and the single year accounting system. First, the research study does not support the implementation of the single year accounting system as a means to eliminate the surge in obligations near the end of the fiscal year. As described in Chapter II, the advocates of the single year accounting system contend that

this new accounting system will encourage managers to save funds while at the same time not encouraging them to inflate budget requests. They believe it will change DoD management incentives from spending O&M funds to saving and investing O&M funds. There are some advantages to this proposed accounting system as well as some distinct limitations.

The primary advantage of this accounting system is the potential reduction in the amount of data DoD commands are required to maintain. While six separate years of O&M accounts are maintained today, under the single year accounting system commands will only maintain the current year of O&M account data. This will greatly reduce the work load and reduce the resources required to maintain the O&M appropriation accounts. [Ref. 4]

The proposed system also gives managers an incentive to search for funds to deobligate. Under the present laws, funds that are released after the end of the fiscal year are of no use to the manager because the O&M appropriation has expired. The funds are taken away. Under the proposed system the unobligated funds would be available to fund current requirements. [Ref. 4]

A form of mission driven budgeting, the proposed system allows a still to be determined portion of the O&M appropriation account remaining at the end of the fiscal year to be carried over to the next fiscal year. This gives managers more time to make decisions on how to best use the

funds. By limiting the amount carried over to a fixed percentage, the single year accounting system is designed to promote saving funds but not to reward managers who consistently inflate their budget requests. [Ref. 4]

However, the single year accounting system has some major shortcomings that limit its ability to change the incentive managers have to spend all the funds. First, the funds that commands save and carry over to the next fiscal year for new or changing priorities will probably be offset by reductions in future O&M appropriations. Once Congress or any level of the chain of command reduces future funding to a command because it was able to save money to carry over to the next fiscal year, the incentive effectively has been changed back to "spend everything".

The single year accounting system must incorporate some kind of predetermined formula to establish what level of funding a command receives each year. This formula must also consider the addition and deletion of requirements placed on commands when determining a funding amount. Thus, for this aspect of the system to work as its proponents intend, Congress should not appropriate less funds with the intent to offset the saved funds from earlier fiscal years.

Secondly, most commands have unfunded requirements that need to be met. Facing shrinking budgets, commands need every dollar they can get to satisfy all of their requirements. It is very unlikely that a command will have

funds to carry over to the next year. Higher authorities will most likely recoup the funds for use at other facilities.

Thirdly, limiting the amount of funds brought forward to the next fiscal year to a percentage of the new fiscal year budget authority will cause managers to focus on the level of funds at this limit. This may help reduce the surge in obligations during the first year the system is introduced. However, in subsequent fiscal years the managers are likely to use this limit to set their obligation goal at the end of the fiscal year. The obligation patterns documented in this research paper would still persist with managers reacting to the new level of funds.

Lastly, the goals of the single year accounting system may be circumvented by clever "gammanship" of the system. A prudent manager under this system will end the year fully obligated. After October 1, he will unoblige the funds "hidden" at the end of the fiscal year. By using this tactic, the manager essentially brings forward into the current fiscal year all the funds which would have been unobligated at the end of the fiscal year. The manager has circumvented the rule limiting the amount of funds that a command can bring forward into the next fiscal year. Because of these limitations, the single year accounting system will most likely not change the present incentive structure nor reduce the surge in obligations near the end

of the fiscal year. Thus, the single year accounting system is not recommended for implementation.

Other options to help control obligation surges near the end of the fiscal year do exist. As an alternative to the single year accounting system, this research study recommends extending the period of availability for O&M funds to 15 months. Mr. Don Shycoff has suggested the possibility of extending the period of availability of O&M appropriations to 15 months to enhance the utilization of O&M funds. [Ref. 16] Extending the period of availability by three months would give managers time to properly evaluate options and wisely use funds rather than rushing to obligate remaining funds before the end of the fiscal year. Assuming that the funds would not be taken away by higher authority near the end of the fiscal year, managers would not be motivated to obligate all of their funds by September 30. A small surge in obligations may occur at the end of the fifteen month period but it will be much less than the current surge in obligations because funds are appropriated based on estimated requirements for 12 months. Given the obligation trends under current laws, extending the period of availability to 15 months should improve the utilization of funds. However, it will not change or eliminate the incentive to spend funds.

The third recommendation is to shift more of management's attention to obligations rather than outlays.

In this era of record federal deficits, managers seem to focus more attention on outlays. However, in this research, eight of the 11 O&M appropriations exceeded the 20 percent limit for obligations during at least one of the 14 years. Intuitively, it makes sense to track obligations more closely because they drive the outlay of funds. Obligations are easier to control than the cash or check payment of funds to satisfy a DoD obligation.

The last recommendation is to consider developing a plan to restrict the obligations within certain categories of purchases near the end of the fiscal year rather than the current practice of trying to control the surge in obligations by percentage limits on the summation of all obligations. As demonstrated in this thesis, certain object classes or elements of expense have large surges in obligations near the end of the fiscal year. Some of these obligations, such as ship overhauls, are obviously needed and planned well in advance. On the other hand, the obligation of over 30 percent of the Equipment object class in September raises the question of whether or not all of the furniture, ADP equipment, instruments, etc., are really needed. Although not proven, the obligation patterns suggest that some managers are simply finding something to obligate the funds against in order to prevent losing the funds at the end of the fiscal year. They certainly have the incentive to act in this manner. Regulating certain

categories of goods and services might prove to be an effective means to regulate end of fiscal year spending.

In closing, the primary incentive resulting from the present centralized and relatively inflexible rule driven federal budget system is to spend all funds. Managers do not have any incentive to save money for investment in future projects or future operational requirements.

Managers are constantly squeezed between a system that motivates them to spend every available dollar while at the same time it threatens to punish them (Anti-Deficiency Act) if they exceed O&M appropriated limits. Implementing a new system such as the single year accounting system is not recommended. This plan requires radical changes in the current laws governing O&M appropriations and most likely will have little impact on the surge in obligations near the end of the fiscal year. No matter what system is used, the best budget execution system will employ sound economic fundamentals based on accurate accounting data. The manager needs to incorporate three general aspects to execute the budget successfully: laws and regulations, operating requirements, and economic reasoning.

#### **APPENDIX A: OBLIGATION DATA**

This appendix includes 14 years of monthly obligation data converted to percentages of budget authority. The data was collected from the Defense Finance and Accounting Service and includes 11 O&M appropriations.

MONTHLY OBLIGATIONS AS A PERCENTAGE OF BUDGET AUTHORITY

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1977	12.51	4.19	8.31	9.06	7.56	7.88	8.49	7.82	7.32	7.94	8.12	10.30
1978	7.76	6.87	5.88	17.06	2.54	6.88	7.86	7.45	7.04	12.13	7.73	10.43
1979	9.40	8.98	8.07	9.43	5.56	5.97	8.52	8.94	7.40	9.26	8.21	9.81
1980	8.30	8.10	7.65	9.16	8.12	7.58	8.00	7.95	8.06	9.64	7.87	9.07
1981	9.56	6.90	8.29	8.08	7.23	7.31	8.02	7.66	7.68	10.79	7.10	10.51
1982	8.18	7.38	7.22	7.41	7.19	12.11	8.96	7.04	7.73	8.66	6.42	11.25
1983	9.14	8.05	8.67	9.34	6.76	8.90	8.28	7.36	7.96	9.00	7.12	8.94
1984	8.83	10.51	6.94	8.29	8.46	7.49	7.85	7.92	7.27	8.31	8.14	8.50
1985	8.88	9.18	7.80	8.55	8.25	7.52	8.55	7.87	7.35	8.90	7.86	8.93
1986	10.23	8.83	8.92	9.55	7.27	7.23	9.30	7.77	8.79	5.41	6.96	9.39
1987	8.87	8.52	9.10	8.25	7.66	7.76	8.63	7.10	8.35	9.19	7.30	8.92
1988	11.19	8.53	6.63	11.17	5.86	7.11	11.53	5.67	4.99	9.79	8.11	9.19
1989	9.05	9.81	7.06	11.20	6.78	7.88	7.71	7.37	7.31	9.11	7.68	8.43
1990	11.29	8.23	8.11	13.34	8.90	7.75	8.07	7.32	10.87	4.59	7.89	8.35

YEAR	O&M MARINE CORPS (11106)											
	MONTHLY OBLIGATIONS AS A PERCENTAGE OF BUDGET AUTHORITY			BUDGET AUTHORITY			JUN			AUG		
OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUL	JUL	AUG	SEP	
1977	7.11	4.36	5.65	10.26	7.24	9.17	9.15	8.21	9.24	8.24	7.42	13.65
1978	7.09	7.58	7.30	8.54	7.30	8.02	8.32	7.22	6.93	8.21	8.10	15.21
1979	6.06	7.09	8.34	9.52	6.71	7.26	10.16	6.03	6.85	10.05	8.57	12.71
1980	6.58	5.54	5.03	9.59	6.84	9.19	9.46	6.37	7.84	10.64	6.66	14.41
1981	6.10	6.15	6.16	7.12	7.34	6.51	9.40	7.22	6.65	13.10	9.00	14.89
1982	4.76	7.12	5.43	8.31	6.79	7.93	10.28	7.11	7.38	12.43	6.84	14.33
1983	5.78	7.38	8.43	5.72	6.89	7.06	7.68	7.07	8.23	13.20	5.62	16.87
1984	7.22	8.32	5.25	8.58	6.44	7.23	8.71	7.19	7.98	12.21	7.53	13.15
1985	7.92	6.10	6.65	9.99	5.77	6.27	10.14	7.97	8.47	10.99	6.73	12.95
1986	7.78	7.10	7.59	7.79	7.28	7.66	9.44	6.81	9.85	11.06	7.28	9.08
1987	8.70	7.27	6.07	10.00	7.08	7.90	8.22	6.05	8.80	10.47	7.85	11.38
1988	7.77	6.35	7.65	9.06	5.25	9.29	7.22	9.25	6.46	11.02	8.17	12.47
1989	9.39	5.41	8.17	9.00	6.67	8.44	7.14	8.20	7.33	10.17	7.37	12.30
1990	5.76	6.54	8.67	8.90	7.95	8.58	13.44	4.44	5.07	7.98	8.33	14.75

O&M MARINE CORPS RESERVE (1107)  
MONTHLY OBLIGATIONS AS A PERCENTAGE OF BUDGET AUTHORITY

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1977	8.78	2.04	5.49	7.88	7.14	7.33	10.94	7.44	9.32	16.42	5.49	10.91
1978	3.35	7.89	6.69	8.87	6.16	3.22	10.35	5.52	6.97	21.30	8.65	8.93
1979	4.16	8.31	7.59	13.88	8.08	3.76	5.19	9.66	5.86	17.13	5.20	9.99
1980	5.31	6.09	6.72	16.66	6.68	5.74	8.44	10.50	3.88	15.17	5.54	8.53
1981	5.90	9.54	6.12	6.54	11.03	5.55	9.73	6.19	9.73	12.93	7.10	8.75
1982	2.54	2.15	5.20	10.05	6.66	8.39	8.55	7.67	12.54	19.36	5.33	9.88
1983	1.41	6.91	10.66	5.65	4.75	9.37	10.65	9.82	6.02	16.21	5.44	11.86
1984	5.36	5.53	8.12	8.86	6.62	4.49	9.45	7.37	8.54	17.76	6.83	10.61
1985	10.53	3.74	4.44	10.90	5.55	9.96	12.43	8.01	8.18	9.96	6.47	9.61
1986	7.37	7.83	8.90	2.87	7.28	8.84	10.27	6.94	14.20	12.46	4.34	8.62
1987	9.39	11.47	7.85	9.40	4.97	7.43	11.52	7.04	6.53	10.26	5.66	8.19
1988	7.92	10.45	10.85	10.76	4.91	8.78	6.78	7.57	8.14	8.83	5.58	8.55
1989	6.69	12.39	6.74	9.56	3.82	7.58	8.54	6.61	12.72	5.28	11.02	8.86
1990	5.20	12.58	11.19	11.33	6.25	5.44	12.36	5.74	6.16	5.53	8.89	11.55

MONTHLY OBLIGATIONS AS A PERCENTAGE OF BUDGET AUTHORITY  
O&M NAVY (1804)

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1977	11.71	8.56	6.93	8.56	10.12	7.25	9.56	6.52	7.29	7.92	6.19	9.11
1978	12.60	10.09	5.85	11.35	6.59	7.04	9.36	6.30	6.08	7.95	6.37	10.15
1979	13.23	7.78	6.89	10.25	6.39	7.49	8.51	6.48	7.37	8.27	7.93	9.15
1980	11.77	8.20	6.56	9.38	6.34	7.44	10.11	7.51	6.87	8.29	6.96	10.52
1981	11.46	7.13	6.68	11.06	7.12	7.34	8.74	5.95	7.05	10.89	6.57	9.47
1982	10.40	5.70	7.40	10.58	9.52	7.42	10.66	7.28	6.00	9.23	5.96	9.19
1983	10.37	6.83	7.86	12.39	7.79	7.44	9.16	5.69	7.33	8.21	6.91	9.06
1984	11.62	6.87	7.87	11.07	8.97	6.72	9.02	6.81	6.53	8.30	6.41	8.64
1985	12.21	7.10	7.90	11.67	6.76	5.85	9.19	6.59	6.49	8.20	6.96	9.72
1986	12.78	7.34	7.64	10.59	5.19	7.01	8.88	6.83	5.95	8.70	7.03	9.04
1987	12.43	8.91	6.13	9.37	7.78	5.96	10.02	6.85	6.91	8.46	6.97	10.04
1988	9.26	7.28	8.14	11.82	7.34	8.54	8.94	7.05	5.99	8.29	7.22	9.84
1989	10.91	9.87	7.38	10.71	7.16	7.30	9.36	6.09	6.25	9.47	6.05	8.08
1990	12.91	6.64	7.74	12.60	6.94	7.53	14.15	4.28	4.75	7.17	5.85	8.42

YEAR	OCT	MONTHLY OBLIGATIONS AS A PERCENTAGE OF BUDGET AUTHORITY									
		NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1977	11.63	6.61	6.10	12.46	7.36	6.71	11.70	6.28	5.40	10.06	6.46
1978	10.43	8.20	8.00	11.91	5.94	6.33	11.57	7.27	5.64	10.41	6.16
1979	7.57	8.85	7.26	12.21	7.40	5.37	8.52	4.76	5.41	10.49	11.31
1980	7.14	8.10	4.22	10.61	5.87	7.10	11.02	8.03	7.35	10.49	8.92
1981	7.69	10.89	7.50	8.14	8.31	6.86	7.23	6.60	6.60	11.62	6.90
1982	9.01	4.47	6.85	8.15	8.05	7.08	10.08	6.20	6.20	13.57	6.23
1983	11.63	5.43	6.55	10.23	6.02	8.57	8.85	6.58	6.58	11.34	5.72
1984	8.77	9.56	5.77	10.28	6.58	7.01	5.57	7.91	7.91	12.20	5.75
1985	6.88	7.29	5.51	7.89	5.80	5.54	12.48	6.03	13.87	8.76	10.18
1986	10.58	6.69	4.25	9.99	2.03	7.46	10.94	5.69	8.66	11.21	8.14
1987	6.81	7.24	8.20	3.07	6.19	10.27	11.44	7.10	7.37	13.39	7.69
1988	5.84	9.58	7.52	10.42	6.35	7.21	10.37	7.23	7.81	10.27	6.37
1989	11.63	7.03	5.76	7.00	8.65	7.19	8.41	5.20	7.15	11.68	6.95
1990	6.08	7.83	5.05	9.91	7.79	8.72	10.11	5.55	7.39	9.15	7.04

YEAR	OCT	O&M ARMY (2020)									
		NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1977	11.34	8.54	7.92	8.42	6.27	8.01	7.66	7.35	8.25	7.76	7.27
1978	10.75	7.98	8.65	8.26	8.91	7.55	6.99	6.95	6.96	7.69	11.53
1979	10.01	7.95	8.19	9.05	6.85	8.05	7.89	7.19	7.10	8.53	7.15
1980	8.81	7.64	6.95	8.77	7.86	8.48	8.30	7.39	6.80	8.38	6.72
1981	9.46	6.85	7.30	8.64	6.55	8.50	7.28	7.50	7.17	9.07	7.17
1982	7.42	7.62	8.02	8.05	9.44	8.30	8.19	7.59	7.42	8.15	6.47
1983	10.11	7.28	7.84	8.64	7.09	8.84	8.22	6.66	7.88	7.70	7.38
1984	9.65	7.24	8.07	10.04	7.21	7.51	8.20	6.73	7.25	8.67	7.64
1985	9.52	9.44	6.85	10.36	7.01	6.15	8.36	7.15	7.36	8.99	6.72
1986	9.98	7.53	8.52	9.33	7.27	8.22	8.11	6.37	6.80	8.85	7.16
1987	8.18	8.98	8.27	8.14	8.71	7.38	7.90	6.61	7.07	7.39	7.00
1988	8.14	7.89	7.69	8.85	9.25	8.56	8.91	6.60	6.57	7.34	7.59
1989	8.02	9.51	8.24	10.12	7.98	7.66	8.73	7.31	6.62	8.07	7.02
1990	7.24	8.37	9.04	10.97	9.51	8.49	9.63	7.21	6.73	7.72	8.88
											13.73

ARMY NATIONAL GUARD (2065)  
MONTHLY OBLIGATIONS AS A PERCENTAGE OF BUDGET AUTHORITY

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1977	10.86	8.47	7.16	7.43	6.77	8.85	8.02	8.85	8.86	8.20	7.26	8.90
1978	10.59	8.75	7.93	7.51	6.65	9.05	7.43	9.72	7.91	6.66	8.43	9.00
1979	8.85	7.09	9.68	8.58	7.01	9.08	8.11	7.94	8.29	8.30	7.99	8.76
1980	10.43	6.39	8.59	8.14	8.46	7.44	8.45	8.10	7.25	8.29	8.03	10.43
1981	12.09	6.45	6.73	7.45	7.45	7.58	9.20	8.31	7.65	8.55	7.96	10.27
1982	6.65	6.57	7.31	7.33	8.35	9.44	8.82	7.77	9.92	7.83	7.38	12.21
1983	8.95	8.44	7.12	6.82	7.44	8.26	7.69	8.67	8.60	7.74	8.04	11.57
1984	6.40	10.30	7.33	7.93	8.02	7.39	7.54	7.73	7.29	8.17	8.74	12.23
1985	10.52	7.66	6.12	6.28	6.06	6.90	8.92	8.81	7.65	8.70	8.40	13.59
1986	8.93	5.99	10.55	5.97	6.21	7.32	10.31	6.77	9.48	8.34	7.57	12.14
1987	9.29	5.03	6.69	8.05	7.00	7.74	9.95	7.80	8.44	7.52	8.67	13.59
1988	4.93	8.26	6.71	9.18	7.78	8.48	7.97	7.28	7.67	7.65	7.63	15.34
1989	7.40	7.34	6.66	8.58	6.52	8.26	8.48	9.40	7.55	7.75	8.91	11.47
1990	11.99	7.11	7.59	7.64	7.22	8.23	7.72	7.41	7.19	8.11	8.57	11.11

O&M ARMY RESERVE (2080)  
MONTHLY OBLIGATIONS AS A PERCENTAGE OF BUDGET AUTHORITY

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1977	7.36	7.16	7.55	7.51	7.03	8.19	7.79	8.61	9.55	8.51	9.51	10.61
1978	8.33	7.58	7.29	8.84	7.00	7.73	8.32	8.64	8.67	8.42	8.36	10.51
1979	8.82	7.32	7.07	8.39	7.14	8.28	8.17	8.75	8.13	9.06	8.30	10.40
1980	7.05	6.47	5.75	7.15	6.72	6.90	7.81	9.74	12.40	10.82	8.13	10.94
1981	8.64	6.80	7.13	8.92	7.18	8.32	8.11	7.67	8.52	8.64	7.88	12.03
1982	6.21	6.56	6.59	7.11	7.11	7.93	8.00	7.63	9.16	9.58	8.39	15.62
1983	7.15	6.76	6.79	7.71	6.96	8.12	8.40	8.06	8.09	8.68	8.70	14.49
1984	6.91	6.95	7.28	7.86	7.19	6.58	8.01	8.31	7.79	9.55	8.56	14.90
1985	7.81	8.23	6.71	8.05	7.14	7.85	8.37	8.46	8.02	9.23	8.26	11.82
1986	7.95	7.26	8.70	6.03	7.05	8.61	8.23	7.73	7.68	9.36	6.57	14.71
1987	8.00	5.66	7.25	4.49	6.62	8.24	8.62	7.62	9.14	9.84	9.54	14.77
1988	5.99	6.67	5.98	6.80	7.05	9.25	7.67	7.56	7.58	7.88	8.63	16.71
1989	7.73	6.39	6.31	8.35	6.63	8.43	8.01	7.77	7.85	8.37	8.27	13.06
1990	6.73	7.04	9.16	8.50	8.36	8.01	8.70	8.29	7.65	9.09	9.29	14.38

YEAR	OCT	O&M AIR FORCE (3400)									
		NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1977	14.99	6.89	5.49	12.27	5.08	6.22	11.99	5.33	6.83	10.67	4.71
1978	14.44	7.01	6.65	10.60	5.77	7.21	10.18	6.08	6.64	9.62	6.39
1979	13.43	7.82	6.94	11.48	5.73	6.56	10.69	6.03	5.71	9.71	6.33
1980	10.82	6.95	5.76	9.62	6.89	7.34	10.31	7.82	6.92	10.08	6.96
1981	11.40	7.23	7.69	10.72	6.16	6.33	10.03	5.86	6.30	11.10	6.43
1982	12.72	8.21	7.57	11.32	5.21	7.03	10.30	6.25	5.88	9.69	5.59
1983	15.22	8.42	7.00	10.40	6.78	5.55	9.24	5.92	6.24	8.68	5.40
1984	15.24	8.68	6.95	10.95	6.97	6.55	7.57	8.03	2.60	10.20	5.40
1985	14.46	8.70	7.16	11.48	6.10	4.10	8.36	6.00	6.37	9.72	6.72
1986	15.88	9.22	7.15	9.53	6.11	6.31	8.84	5.87	4.99	9.09	6.10
1987	16.12	8.93	4.78	8.09	8.68	5.12	8.09	5.59	6.25	8.15	6.87
1988	15.95	9.51	7.34	10.28	5.97	6.14	8.64	5.15	5.72	8.15	5.77
1989	14.70	10.75	6.80	9.86	5.93	6.43	8.30	6.21	6.06	7.67	6.68
1990	13.32	10.96	8.13	10.76	5.75	6.62	9.05	6.08	5.83	8.00	7.07

MONTHLY OBLIGATIONS AS A PERCENTAGE OF BUDGET AUTHORITY

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1977	13.23	5.37	6.15	13.10	4.81	5.67	13.49	5.35	5.50	13.79	6.14	7.29
1978	13.30	5.28	5.26	13.16	5.11	5.88	12.69	5.72	5.97	13.75	6.03	7.53
1979	13.58	5.71	4.85	13.43	4.83	5.91	14.04	5.69	5.50	14.10	5.44	6.31
1980	7.09	6.12	6.40	14.07	6.71	4.46	14.97	4.58	6.01	7.44	16.27	5.88
1981	6.11	5.51	11.72	5.75	11.42	5.86	12.36	5.23	6.57	13.94	7.24	7.81
1982	11.63	5.56	6.48	11.77	5.78	6.78	12.88	4.31	6.61	12.25	6.79	8.63
1983	17.52	4.40	5.44	11.59	5.48	5.62	6.02	7.60	9.64	11.08	6.70	8.41
1984	15.60	5.68	9.70	10.21	5.53	3.06	10.03	6.31	6.49	11.09	6.48	9.03
1985	13.71	15.75	5.12	11.09	5.28	-1.23	10.89	6.21	7.36	11.28	5.71	8.61
1986	8.59	14.94	8.49	10.85	4.92	5.96	7.67	5.77	6.33	9.14	6.48	10.72
1987	7.01	9.85	13.58	3.93	5.26	5.85	7.66	7.17	8.85	11.29	6.72	12.58
1988	18.57	4.58	1.90	13.22	5.13	6.56	8.49	7.21	6.21	10.10	6.48	11.42
1989	15.33	6.73	4.97	10.21	5.49	6.67	9.54	4.60	6.11	11.40	8.09	10.55
1990	6.94	5.02	7.73	7.68	6.69	8.20	4.74	10.34	7.13	13.86	6.52	12.02

O&M AIR NATIONAL GUARD (3840)  
MONTHLY OBLIGATIONS AS A PERCENTAGE OF BUDGET AUTHORITY

YEAR	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1977	9.34	7.64	7.49	8.97	7.24	7.90	8.08	8.73	7.59	9.78	7.76	9.29
1978	9.05	8.71	6.99	9.05	6.64	7.72	9.63	8.00	7.43	9.59	7.91	9.20
1979	7.11	9.31	6.56	9.81	6.18	7.85	10.03	8.76	7.81	10.26	7.47	8.75
1980	7.07	6.09	5.47	12.02	7.55	7.08	11.09	8.76	8.06	10.29	7.83	8.68
1981	11.38	5.99	6.70	9.79	7.35	6.38	8.79	6.65	7.17	12.19	7.81	9.00
1982	9.96	7.19	7.30	8.83	6.38	7.61	12.00	4.44	9.33	9.79	8.44	8.60
1983	10.21	6.63	8.33	9.51	10.13	5.12	8.21	8.28	7.10	8.52	8.13	9.42
1984	10.73	11.19	11.11	7.50	7.11	6.89	9.15	4.19	7.03	10.24	6.54	7.95
1985	15.19	5.49	6.63	10.94	6.46	7.31	4.22	10.73	6.15	11.93	6.72	8.19
1986	7.75	14.41	9.61	14.21	0.91	4.47	10.52	6.82	5.64	11.74	6.48	7.40
1987	15.44	6.48	6.93	-7.30	18.08	7.04	5.78	7.34	12.13	9.42	7.34	10.96
1988	13.82	8.73	7.45	8.36	6.16	6.13	9.19	6.32	5.08	10.37	8.95	9.42
1989	14.07	9.31	6.35	8.07	6.36	7.74	7.16	7.14	5.61	9.43	8.47	9.90
1990	13.67	8.02	5.72	8.21	7.70	6.90	9.92	7.82	5.42	10.10	6.93	10.81

YEAR	OCT	NOV	DEC	JAN	O&M TOTAL OBLIGATIONS PERCENTAGE OF BUDGET AUTHORITY							
					FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1977	12.30	7.61	6.92	9.57	7.39	7.31	9.56	6.68	7.49	8.70	6.37	9.78
1978	11.90	8.37	6.87	10.68	6.64	7.26	8.97	6.66	6.61	8.55	6.94	10.32
1979	11.71	7.92	7.38	10.15	6.30	7.30	8.99	6.81	6.89	8.93	7.39	9.91
1980	10.18	7.56	6.47	9.37	7.05	7.66	9.59	7.61	7.06	9.01	7.12	11.22
1981	10.61	7.03	7.26	9.90	6.82	7.31	8.71	6.52	6.94	10.57	6.84	10.98
1982	9.83	7.03	7.51	9.69	7.99	7.96	9.80	6.99	6.68	9.17	6.17	10.67
1983	11.33	7.44	7.68	10.31	7.26	7.38	8.75	6.33	7.31	8.46	6.69	10.64
1984	11.53	7.93	7.61	10.30	7.81	6.93	8.30	7.16	5.89	9.07	6.70	10.12
1985	11.66	8.29	7.31	10.81	6.73	5.65	8.69	6.88	6.82	9.07	6.95	10.58
1986	12.18	8.17	7.93	9.79	6.10	7.14	8.79	6.55	6.40	8.67	6.83	10.30
1987	11.51	8.69	6.85	8.11	8.35	6.51	8.69	6.54	7.18	8.31	7.08	12.05
1988	10.76	8.12	7.52	10.36	7.26	7.76	9.09	6.38	6.03	8.31	7.14	11.06
1989	10.83	9.73	7.36	10.21	6.99	7.31	8.62	6.71	6.49	8.64	6.84	10.16
1990	10.96	8.36	8.18	11.42	7.62	7.64	10.61	6.09	6.38	7.43	7.36	10.84

#### **APPENDIX B: MINITAB OUTPUT**

The following pages contain a statistical description of the monthly obligation data received from the Defense Finance and Accounting Service. The statistical analysis was performed with the MINITAB computer program. The appendix includes the following items for each month of the fiscal year for the 11 O&M appropriations analyzed: the number of data points, mean, median, trimmed mean, standard deviation, standard error of the mean, minimum value, maximum value, first quartile, and the third quartile.

O&M DEFENSE AGENCIES (0100)

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
OCT	14	9.514	9.095	9.410	1.343	0.359
	MIN	MAX	Q1	Q3		
NOV	7.760	12.510	8.698	10.470		
	14	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
DEC	4.190	10.510	7.260	9.030		
	14	7.754	7.935	7.798	0.913	0.244
JAN	5.880	MAX	Q1	Q3		
	14	9.100	7.030	8.400		
FEB	7.410	MAX	Q1	Q3		
	14	17.060	8.280	11.177		
MAR	2.540	MAX	Q1	Q3		
	14	7.010	7.250	7.225	1.589	0.425
APR	5.970	MAX	Q1	Q3		
	14	7.812	7.550	7.608	1.394	0.373
MAY	5.970	MAX	Q1	Q3		
	14	12.110	7.200	7.880		
	7.710	MAX	Q1	Q3		
	14	8.555	8.385	8.378	0.968	0.259
	7.710	MAX	Q1	Q3		
	14	11.530	7.965	8.712		
	5.670	MAX	Q1	Q3		
	14	7.517	7.555	7.552	0.711	0.190
	5.670	MAX	Q1	Q3		
	14	8.940	7.265	7.882		

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
JUN	14	7.723	7.540	7.688	1.250	0.334
	MIN	MAX	Q1	Q3		
	4.990	10.870	7.300	8.133		
JUL	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.766	9.055	8.833	1.910	0.511
	MIN	MAX	Q1	Q3		
	4.590	12.130	8.218	9.677		
AUG	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.608	7.795	7.657	0.542	0.145
	MIN	MAX	Q1	Q3		
	6.420	8.210	7.115	8.112		
SEP	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	9.430	9.130	9.368	0.892	0.238
	MIN	MAX	Q1	Q3		
	8.350	11.250	8.815	10.333		

**O&M MARINE CORPS (1106)**

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
OCT	N 14	7.001	7.100	6.989	1.260	0.337
	MIN 4.760	MAX 9.390	Q1 5.990	Q3 7.815		
NOV	N 14	6.594	MEDIAN 6.815	TRMEAN 6.636	STDEV 1.031	SEMEAN 0.275
	MIN 4.360	MAX 8.320	Q1 5.960	Q3 7.298		
DEC	N 14	6.885	MEDIAN 6.975	TRMEAN 6.891	STDEV 1.289	SEMEAN 0.344
	MIN 5.030	MAX 8.670	Q1 5.595	Q3 8.212		
JAN	N 14	8.741	MEDIAN 8.950	TRMEAN 8.867	STDEV 1.237	SEMEAN 0.331
	MIN 5.720	MAX 10.260	Q1 8.180	Q3 9.690		
FEB	N 14	6.825	MEDIAN 6.865	TRMEAN 6.862	STDEV 0.679	SEMEAN 0.181
	MIN 5.250	MAX 7.950	Q1 6.613	Q3 7.285		
MAR	N 14	7.894	MEDIAN 7.915	TRMEAN 7.913	STDEV 0.968	SEMEAN 0.259
	MIN 6.270	MAX 9.290	Q1 7.187	Q3 8.727		
APR	N 14	9.197	MEDIAN 9.275	TRMEAN 9.015	STDEV 1.607	SEMEAN 0.429
	MIN 7.140	MAX 13.440	Q1 8.085	Q3 10.145		
MAY	N 14	7.081	MEDIAN 7.150	TRMEAN 7.121	STDEV 1.170	SEMEAN 0.313
	MIN 4.440	MAX 9.250	Q1 6.290	Q3 8.028		

JUN	N 14	MEAN 7.649	MEDIAN 7.610	TRMEAN 7.680	STDEV 1.248	SEMEAN 0.334
	MIN 5.070	MAX 9.850	Q1 6.800	Q3 8.552		
JUL	N 14	MEAN 10.698	MEDIAN 10.815	TRMEAN 10.716	STDEV 1.710	SEMEAN 0.457
	MIN 7.980	MAX 13.200	Q1 9.597	Q3 12.265		
AUG	N 14	MEAN 7.534	MEDIAN 7.475	TRMEAN 7.571	STDEV 0.892	SEMEAN 0.238
	MIN 5.620	MAX 9.000	Q1 6.813	Q3 8.210		
SEP	N 14	MEAN 13.439	MEDIAN 13.400	TRMEAN 13.517	STDEV 1.898	SEMEAN 0.507
	MIN 9.080	MAX 16.870	Q1 12.427	Q3 14.785		

**O&M MARINE CORPS RESERVE (1107)**

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	5.994	5.630	5.997	2.642	0.706
OCT	MIN 1.410	MAX 10.530	Q1 3.957	Q3 8.135		
NOV	N 14	MEAN 7.637	MEDIAN 7.860	TRMEAN 7.692	STDEV 3.484	SEMEAN 0.931
	MIN 2.040	MAX 12.580	Q1 5.082	Q3 10.705		
DEC	N 14	MEAN 7.611	MEDIAN 7.165	TRMEAN 7.577	STDEV 2.141	SEMEAN 0.572
	MIN 4.440	MAX 11.190	Q1 5.962	Q3 9.340		
JAN	N 14	MEAN 9.515	MEDIAN 9.480	TRMEAN 9.473	STDEV 3.381	SEMEAN 0.904
	MIN 2.870	MAX 16.660	Q1 7.545	Q3 11.007		
FEB	N 14	MEAN 6.421	MEDIAN 6.435	TRMEAN 6.254	STDEV 1.759	SEMEAN 0.470
	MIN 3.820	MAX 11.030	Q1 4.955	Q3 7.175		
MAR	N 14	MEAN 6.849	MEDIAN 7.380	TRMEAN 6.892	STDEV 2.155	SEMEAN 0.576
	MIN 3.220	MAX 9.960	Q1 5.202	Q3 8.795		
APR	N 14	MEAN 9.657	MEDIAN 10.000	TRMEAN 9.798	STDEV 2.042	SEMEAN 0.546
	MIN 5.190	MAX 12.430	Q1 8.515	Q3 11.085		
MAY	N 14	MEAN 7.577	MEDIAN 7.405	TRMEAN 7.505	STDEV 1.502	SEMEAN 0.401
	MIN 5.520	MAX 10.500	Q1 6.505	Q3 8.423		

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
JUN	14	8.485	8.160	8.392	2.977	0.796
	MIN	MAX	Q1	Q3		
JUL	3.880	14.200	6.125	10.432		
	14	13.47	14.05	13.50	4.98	1.33
AUG	MIN	MAX	Q1	Q3		
	5.28	21.30	9.68	17.29		
SEP	14	6.539	5.620	6.348	1.830	0.489
	MIN	MAX	Q1	Q3		
	4.340	11.020	5.412	7.487		
	14	9.631	9.270	9.566	1.202	0.321
	MIN	MAX	Q1	Q3		
	8.190	11.860	8.602	10.685		

O&M NAVY (1804)

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
OCT	14	11.690	11.740	11.764	1.133	0.303
	MIN	MAX	Q1	Q3		
NOV	9.260	13.230	10.782	12.645		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
DEC	14	7.736	7.310	7.709	1.253	0.335
	MIN	MAX	Q1	Q3		
JAN	5.700	10.090	6.860	8.648		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
FEB	14	7.212	7.390	7.248	0.714	0.191
	MIN	MAX	Q1	Q3		
MAR	5.850	8.140	6.650	7.863		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
APR	14	10.814	10.885	10.853	1.160	0.310
	MIN	MAX	Q1	Q3		
MAY	8.560	12.600	10.033	11.708		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.429	7.140	7.392	1.333	0.356
	MIN	MAX	Q1	Q3		
	5.190	10.120	6.540	8.085		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.166	7.320	7.162	0.669	0.179
	MIN	MAX	Q1	Q3		
	5.850	8.540	6.937	7.452		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	9.690	9.275	9.417	1.410	0.377
	MIN	MAX	Q1	Q3		
	8.510	14.150	8.925	10.043		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.445	6.555	6.537	0.800	0.214
	MIN	MAX	Q1	Q3		
	4.280	7.510	6.055	6.900		

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
JUN	14	6.490	6.510	6.562	0.723	0.193
	MIN	MAX	Q1	Q3		
JUL	4.750	7.370	5.997	7.110		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
AUG	14	8.525	8.290	8.441	0.876	0.234
	MIN	MAX	Q1	Q3		
SEP	7.170	10.890	8.137	8.832		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.670	6.740	6.633	0.575	0.154
	MIN	MAX	Q1	Q3		
	5.850	7.930	6.155	6.985		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	9.319	9.170	9.322	0.690	0.184
	MIN	MAX	Q1	Q3		
	8.080	10.520	8.940	9.898		

O&M NAVY RESERVE (1806)

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
OCT	14	8.896	8.350	8.923	2.272	0.607
	MIN	MAX	Q1	Q3		
NOV	5.840	11.630	6.863	11.630		
	14	7.403	7.265	7.357	1.710	0.457
DEC	MIN	MAX	Q1	Q3		
	4.470	10.890	6.315	8.363		
JAN	14	6.380	6.550	6.408	1.293	0.346
	MIN	MAX	Q1	Q3		
FEB	4.220	8.200	5.395	7.505		
	14	9.444	10.110	9.724	2.470	0.660
MAR	MIN	MAX	Q1	Q3		
	3.070	12.460	8.078	10.935		
APR	14	6.610	6.565	6.822	1.638	0.438
	MIN	MAX	Q1	Q3		
MAY	2.030	8.650	5.923	7.855		
	14	7.244	7.090	7.148	1.269	0.339
APR	MIN	MAX	Q1	Q3		
	5.370	10.270	6.615	7.738		
MAY	14	9.878	10.240	10.020	1.937	0.518
	MIN	MAX	Q1	Q3		
MAY	5.570	12.480	8.493	11.472		
	14	6.658	6.900	6.690	1.037	0.277
MAY	MIN	MAX	Q1	Q3		
	4.760	8.170	5.655	7.335		

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
JUN	14	6.821	6.875	6.787	1.003	0.268
	MIN	MAX	Q1	Q3		
JUL	5.400	8.660	5.932	7.495		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
AUG	14	11.411	11.275	11.394	1.424	0.380
	MIN	MAX	Q1	Q3		
SEP	9.150	13.870	10.375	12.497		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.314	6.925	7.114	1.543	0.412
	MIN	MAX	Q1	Q3		
	5.720	11.310	6.213	8.295		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	10.016	10.270	10.114	1.326	0.354
	MIN	MAX	Q1	Q3		
	7.140	11.710	9.225	10.890		

**O&M ARMY (2020)**

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	9.188	9.490	9.171	1.245	0.333
OCT	MIN	MAX	Q1	Q3		
	7.240	11.340	8.110	10.035		
NOV	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.059	7.920	8.038	0.814	0.218
	MIN	MAX	Q1	Q3		
	6.850	9.510	7.468	8.650		
DEC	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.968	8.045	7.972	0.619	0.165
	MIN	MAX	Q1	Q3		
	6.850	9.040	7.593	8.333		
JAN	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	9.117	8.810	9.052	0.913	0.244
	MIN	MAX	Q1	Q3		
	8.050	10.970	8.380	10.060		
FEB	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.851	7.565	7.844	1.121	0.300
	MIN	MAX	Q1	Q3		
	6.270	9.510	6.970	8.995		
MAR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.979	8.135	8.059	0.693	0.185
	MIN	MAX	Q1	Q3		
	6.150	8.840	7.540	8.493		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.209	8.195	8.168	0.596	0.159
	MIN	MAX	Q1	Q3		
	7.280	9.630	7.832	8.452		
MAY	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.046	7.170	7.058	0.386	0.103
	MIN	MAX	Q1	Q3		
	6.370	7.590	6.648	7.360		

JUN	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.141	7.085	7.096	0.477	0.127
JUL	MIN	MAX	Q1	Q3		
	6.570	8.250	6.783	7.375		
AUG	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.113	8.110	8.129	0.661	0.177
SEP	MIN	MAX	Q1	Q3		
	6.960	9.070	7.622	8.715		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.276	7.165	7.209	0.584	0.156
	MIN	MAX	Q1	Q3		
	6.470	8.880	6.930	7.602		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	12.473	12.175	12.463	1.125	0.301
	MIN	MAX	Q1	Q3		
	10.730	14.330	11.583	13.772		

**O&M NATIONAL GUARD (2065)**

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
OCT	14	9.134	9.120	9.238	2.150	0.575
	MIN 4.930	MAX 12.090	Q1 7.213	Q3 10.658		
NOV	14	7.418	7.225	7.377	1.349	0.361
	MIN 5.030	MAX 10.300	Q1 6.435	Q3 8.448		
DEC	14	7.584	7.235	7.458	1.245	0.333
	MIN 6.120	MAX 10.550	Q1 6.705	Q3 8.095		
JAN	14	7.635	7.575	7.645	0.883	0.236
	MIN 5.970	MAX 9.180	Q1 7.202	Q3 8.250		
FEB	14	7.210	7.115	7.202	0.752	0.201
	MIN 6.060	MAX 8.460	Q1 6.618	Q3 7.840		
MAR	14	8.144	8.245	8.140	0.774	0.207
	MIN 6.900	MAX 9.440	Q1 7.427	Q3 8.900		
APR	14	8.472	8.280	8.406	0.883	0.236
	MIN 7.430	MAX 10.310	Q1 7.712	Q3 8.990		
MAY	14	8.183	8.020	8.173	0.829	0.222
	MIN 6.770	MAX 9.720	Q1 7.650	Q3 8.820		

JUN	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.125	7.790	8.053	0.847	0.226
JUL	MIN	MAX	Q1	Q3		
	7.190	9.920	7.485	8.665		
AUG	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.986	8.140	8.038	0.517	0.138
SEP	MIN	MAX	Q1	Q3		
	6.660	8.700	7.717	8.310		
AUG	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.113	8.035	8.117	0.524	0.140
SEP	MIN	MAX	Q1	Q3		
	7.260	8.910	7.615	8.595		
SEP	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	11.472	11.520	11.376	1.927	0.515
SEP	MIN	MAX	Q1	Q3		
	8.760	15.340	9.953	12.570		

**O&M ARMY RESERVE (2080)**

OCT	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.477	7.545	7.489	0.857	0.229
NOV	MIN	MAX	Q1	Q3		
	5.990	8.820	6.865	8.083		
DEC	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.918	6.875	6.913	0.608	0.162
JAN	MIN	MAX	Q1	Q3		
	5.660	8.230	6.537	7.275		
FEB	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.111	7.100	7.054	0.933	0.249
MAR	MIN	MAX	Q1	Q3		
	5.750	9.160	6.520	7.355		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.551	7.785	7.692	1.201	0.321
MAY	MIN	MAX	Q1	Q3		
	4.490	8.920	7.033	8.418		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.084	7.050	7.017	0.415	0.111
MAY	MIN	MAX	Q1	Q3		
	6.620	8.360	6.900	7.150		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.031	8.155	8.051	0.663	0.177
MAY	MIN	MAX	Q1	Q3		
	6.580	9.250	7.820	8.347		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.1579	8.1400	8.1533	0.3048	0.0815
MAY	MIN	MAX	Q1	Q3		
	7.6700	8.7000	7.9525	8.3775		
MAY	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.203	8.175	8.128	0.614	0.164
MAY	MIN	MAX	Q1	Q3		
	7.560	9.740	7.660	8.618		

		N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
JUN		14	8.588	8.110	8.354	1.264	0.338
		MIN	MAX	Q1	Q3		
		7.580	12.400	7.762	9.145		
JUL		N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
		14	9.074	9.075	9.028	0.746	0.199
		MIN	MAX	Q1	Q3		
		7.880	10.820	8.488	9.557		
AUG		N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
		14	8.456	8.375	8.523	0.744	0.199
		MIN	MAX	Q1	Q3		
		6.570	9.540	8.227	8.847		
SEP		N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
		14	13.211	13.720	13.153	2.131	0.570
		MIN	MAX	Q1	Q3		
		10.400	16.710	10.858	14.802		

**O&M AIR FORCE (3400)**

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
OCT	14	14.192	14.580	14.312	1.653	0.442
	MIN	MAX	Q1	Q3		
	10.820	16.120	13.170	15.400		
NOV	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.520	8.550	8.453	1.309	0.350
	MIN	MAX	Q1	Q3		
	6.890	10.960	7.175	9.293		
DEC	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.815	6.975	6.875	0.906	0.242
	MIN	MAX	Q1	Q3		
	4.780	8.130	6.428	7.398		
JAN	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	10.526	10.660	10.583	1.039	0.278
	MIN	MAX	Q1	Q3		
	8.090	12.270	9.800	11.360		
FEB	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.224	6.035	6.114	0.900	0.241
	MIN	MAX	Q1	Q3		
	5.080	8.680	5.745	6.807		
MAR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.251	6.380	6.339	0.854	0.228
	MIN	MAX	Q1	Q3		
	4.100	7.340	5.992	6.722		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	9.399	9.145	9.336	1.222	0.327
	MIN	MAX	Q1	Q3		
	7.570	11.990	8.345	10.302		
MAY	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.159	6.015	6.087	0.813	0.217
	MIN	MAX	Q1	Q3		
	5.150	8.030	5.793	6.220		

JUN	N 14	MEAN 5.881	MEDIAN 6.150	TRMEAN 6.068	STDEV 1.070	SEMEAN 0.286
	MIN 2.600	MAX 6.920	Q1 5.717	Q3 6.438		
JUL	N 14	MEAN 9.324	MEDIAN 9.655	TRMEAN 9.313	STDEV 1.058	SEMEAN 0.283
	MIN 7.670	MAX 11.100	Q1 8.150	Q3 10.110		
AUG	N 14	MEAN 6.173	MEDIAN 6.360	TRMEAN 6.220	STDEV 0.704	SEMEAN 0.188
	MIN 4.710	MAX 7.070	Q1 5.543	Q3 6.757		
SEP	N 14	MEAN 10.662	MEDIAN 10.780	TRMEAN 10.562	STDEV 1.022	SEMEAN 0.273
	MIN 9.250	MAX 13.280	Q1 9.868	Q3 11.168		

**O&M AIR FORCE RESERVE (3740)**

OCT	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	12.02	13.26	11.96	4.18	1.12
NOV	MIN	MAX	Q1	Q3		
	6.11	18.57	7.07	15.40		
DEC	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.179	5.620	6.696	3.700	0.989
JAN	MIN	MAX	Q1	Q3		
	4.400	15.750	5.215	7.510		
FEB	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.985	6.275	6.859	3.047	0.814
MAR	MIN	MAX	Q1	Q3		
	1.900	13.580	5.082	8.792		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	10.719	11.340	11.005	3.026	0.809
MAY	MIN	MAX	Q1	Q3		
	3.930	14.070	9.578	13.175		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	5.889	5.380	5.517	1.700	0.454
MAY	MIN	MAX	Q1	Q3		
	4.810	11.420	5.062	6.008		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	5.375	5.870	5.690	2.225	0.595
MAY	MIN	MAX	Q1	Q3		
	-1.230	8.200	5.330	6.588		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	10.391	10.460	10.480	3.161	0.845
MAY	MIN	MAX	Q1	Q3		
	4.740	14.970	7.668	13.033		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.149	5.745	5.953	1.572	0.420
MAY	MIN	MAX	Q1	Q3		
	4.310	10.340	5.073	7.180		

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
JUN	14	6.734	6.410	6.595	1.195	0.319
	MIN	MAX	Q1	Q3		
JUL	5.500	9.640	6.000	7.187		
	14	11.751	11.345	11.914	2.014	0.538
AUG	MIN	MAX	Q1	Q3		
	7.440	14.100	10.835	13.807		
SEP	14	7.221	6.500	6.615	2.682	0.717
	MIN	MAX	Q1	Q3		
	5.440	16.270	6.113	6.903		
	14	9.056	8.620	9.028	2.098	0.561
	MIN	MAX	Q1	Q3		
	5.880	12.580	7.470	10.895		

**O&M AIR NATIONAL GUARD (3840)**

	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
OCT	14	11.056	10.470	11.023	2.927	0.782
	MIN	MAX	Q1	Q3		
	7.070	15.440	8.725	13.882		
NOV	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.228	7.830	7.941	2.385	0.638
	MIN	MAX	Q1	Q3		
	5.490	14.410	6.383	9.310		
DEC	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.331	6.960	7.172	1.501	0.401
	MIN	MAX	Q1	Q3		
	5.470	11.110	6.507	7.700		
JAN	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.43	9.01	9.26	4.86	1.30
	MIN	MAX	Q1	Q3		
	-7.30	14.21	8.18	10.09		
FEB	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.446	6.875	7.105	3.621	0.968
	MIN	MAX	Q1	Q3		
	0.910	18.080	6.315	7.588		
MAR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.867	7.060	6.981	1.035	0.277
	MIN	MAX	Q1	Q3		
	4.470	7.900	6.318	7.725		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.841	9.170	8.963	2.072	0.554
	MIN	MAX	Q1	Q3		
	4.220	12.000	7.850	10.153		
MAY	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.427	7.580	7.422	1.733	0.463
	MIN	MAX	Q1	Q3		
	4.190	10.730	6.568	8.737		

JUN	N 14	MEAN 7.254	MEDIAN 7.135	TRMEAN 7.028	STDEV 1.837	SEMEAN 0.491
	MIN 5.080	MAX 12.130	Q1 5.632	Q3 7.872		
JUL	N 14	MEAN 10.261	MEDIAN 10.170	TRMEAN 10.245	STDEV 1.040	SEMEAN 0.278
	MIN 8.520	MAX 12.190	Q1 9.550	Q3 10.712		
AUG	N 14	MEAN 7.627	MEDIAN 7.785	TRMEAN 7.612	STDEV 0.758	SEMEAN 0.202
	MIN 6.480	MAX 8.950	Q1 6.877	Q3 8.208		
SEP	N 14	MEAN 9.112	MEDIAN 9.100	TRMEAN 9.101	STDEV 0.995	SEMEAN 0.266
	MIN 7.400	MAX 10.960	Q1 8.498	Q3 9.540		

**O&M TOTAL OBLIGATIONS**

OCT	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	11.235	11.420	11.263	0.733	0.196
NOV	MIN	MAX	Q1	Q3		
	9.830	12.300	10.722	11.757		
DEC	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.018	8.025	7.957	0.702	0.188
JAN	MIN	MAX	Q1	Q3		
	7.030	9.730	7.530	8.362		
FEB	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.346	7.370	7.350	0.456	0.122
MAR	MIN	MAX	Q1	Q3		
	6.470	8.180	6.908	7.628		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	10.048	10.180	10.095	0.774	0.207
MAY	MIN	MAX	Q1	Q3		
	8.110	11.420	9.660	10.440		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.165	7.155	7.155	0.638	0.170
MAY	MIN	MAX	Q1	Q3		
	6.100	8.350	6.707	7.668		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	7.223	7.310	7.292	0.577	0.154
MAY	MIN	MAX	Q1	Q3		
	5.650	7.960	7.087	7.645		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	9.083	8.880	9.021	0.609	0.163
MAY	MIN	MAX	Q1	Q3		
	8.300	10.610	8.690	9.568		
APR	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.708	6.670	6.684	0.378	0.101
MAY	MIN	MAX	Q1	Q3		
	6.090	7.610	6.485	6.908		

JUN	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.726	6.750	6.733	0.464	0.124
JUL	MIN	MAX	Q1	Q3		
	5.890	7.490	6.395	7.090		
AUG	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	8.778	8.685	8.741	0.683	0.182
SEP	MIN	MAX	Q1	Q3		
	7.430	10.570	8.423	9.070		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	6.8871	6.8900	6.9050	0.3399	0.0908
	MIN	MAX	Q1	Q3		
	6.1700	7.3900	6.6975	7.1250		
	N	MEAN	MEDIAN	TRMEAN	STDEV	SEMEAN
	14	10.616	10.610	10.567	0.598	0.160
	MIN	MAX	Q1	Q3		
	9.780	12.050	10.150	11.000		

#### **APPENDIX C: OMN ELEMENT OF EXPENSE DATA**

This appendix includes the elements of expense which contributed to the surge in obligations near the end of the fiscal year for the Navy's OMN appropriation. The data is organized according to budget activities.

STRATEGIC FORCES  
OMN FOURTH QUARTER OBLIGATION RATES

ELEMENT OF EXPENSE	FISCAL YEAR	LAST THREE MONTHS OF FY	LAST TWO MONTHS OF FY
Purchased Equipment Maintenance (Intra-DoD)	1992	33.7%	29.1%
Travel of Personnel	1992	30.6%	17.6%
Transportation of Things (TOT) - Military Airlift Command	1990	44.0%	41.9%
TOT- Commercial Air	1990 1991 1992	33.3% 50.0% 40.0%	0.0% 0.0% 20.0%
TOT- Inland Transportation	1989 1990 1992	32.3% 38.1% 36.6%	30.0% 31.9% 20.4%
Aircraft POL	1992	30.5%	21.9%
Ship POL	1991	32.7%	19.4%
Supplies	1989	35.5%	23.6%
Other POL	1989 1990 1991	57.7% 67.9% 55.8%	56.2% 66.1% 37.3%
Equipment	1989 1990 1991 1992	39.5% 42.8% 53.8% 41.5%	39.8% 35.0% 46.9% 32.9%
Purchased Equipment Maintenance (Commercial)	1989 1990 1991 1992	36.7% 28.9% 15.5% 33.4%	20.5% 25.3% 44.7% 28.3%

GENERAL PURPOSE FORCES  
OMN FOURTH QUARTER OBLIGATION RATES

ELEMENT OF EXPENSE	FISCAL YEAR	LAST THREE MONTHS OF FY	LAST TWO MONTHS OF FY
Purchased Equipment Maintenance (Intra-DoD)	1991	37.6%	27.4%
	1992	28.8%	25.2%
TOT- Military Airlift Command	1989	33.2%	30.8%
	1990	79.9%	83.3%
	1992	23.8%	23.3%
TOT- Commercial Air	1989	54.5%	4.5%
	1992	92.3%	92.3%
TOT- Military Sealift Command	1989	36.9%	20.7%
	1990	35.7%	25.7%
	1991	83.6%	76.2%
	1992	30.7%	24.0%
TOT- Inland Transportation	1991	33.5%	22.5%
TOT- Other	1989	38.7%	31.1%
	1990	62.5%	60.6%
	1992	34.3%	17.9%
Purchased Equipment Maintenance (Commercial)	1989	31.5%	24.1%
	1991	41.0%	29.5%
	1992	30.5%	23.8%
Supplies	1991	30.7%	19.1%
Other POL	1990	51.0%	43.6%
Equipment	1989	50.8%	41.3%
	1990	49.1%	41.8%
	1991	66.6%	57.4%
	1992	57.0%	46.5%
Other Expense	1992	38.8%	30.9%
Printing & Reproduction	1989	31.1%	11.3%
	1991	35.0%	28.8%
Aviation Depot Level Reparable	1990	29.2%	21.2%
	1991	29.1%	20.4%
Purchased Services	1991	32.3%	21.7%

INTELLIGENCE AND COMMUNICATIONS  
OMN FOURTH QUARTER OBLIGATION RATES

ELEMENT OF EXPENSE	FISCAL YEAR	LAST THREE MONTHS OF FY	LAST TWO MONTHS OF FY
TOT- Military Airlift Command	1989 1991	49.6% 43.9%	26.1% 25.4%
TOT- Commercial Air	1989 1992	57.1% 60.0%	57.1% 60.0%
TOT- Military Sealift Command	1990 1991	27.4% 43.7%	27.2% 29.4%
TOT- Inland Transportation	1989 1990 1991	46.0% 29.9% 36.0%	2.5% 29.9% 42.6%
TOT-Other	1990 1991	38.9% 53.9%	31.6% 43.1%
Communications	1989 1990	39.1% 26.4%	32.5% 20.5%
Purchased Equipment Maintenance-Commercial	1989	52.3%	14.7%
Aircraft POL	1989 1992	33.8% 31.9%	21.6% 23.9%
Other POL	1989 1992	30.1% 37.9%	11.9% 30.4%
Equipment	1989 1990 1991 1992	46.1% 39.8% 60.1% 45.0%	38.3% 32.2% 41.2% 32.8%
Other Expense	1989 1991 1992	34.0% 54.4% 30.0%	23.5% 72.3% 20.0%
Printing & Reproduction	1989 1990 1991 1992	32.5% 37.0% 25.2% 37.0%	24.0% 32.4% 23.1% 28.6%
Aviation Depot Level Repairable	1989 1990 1991	26.2% 24.7% 32.5%	23.8% 24.7% 7.7%

**AIRLIFT AND SEALIFT  
OMN FOURTH QUARTER OBLIGATION RATES**

ELEMENT OF EXPENSE	FISCAL YEAR	LAST THREE MONTHS OF FY	LAST TWO MONTHS OF FY
Travel of Personnel	1990	50.5%	43.9%
Communications	1990 1991	28.1% 39.1%	28.1% 0.5%
Purchased Services- Other	1990 1991 1992	48.3% 36.9% 39.6%	18.0% 16.4% 14.2%
Supplies	1990 1991 1992	48.3% 39.1% 71.4%	33.0% 30.0% 68.2%
Other POL	1990 1991	55.6% 85.4%	55.6% 2.1%
Equipment	1990 1992	66.0% 57.6%	62.4% 35.9%
Printing & Reproduction	1990 1991 1992	75.1% 68.4% 46.5%	13.7% 62.5% 44.0%

CENTRAL SUPPLY AND MAINTENANCE  
OMN FOURTH QUARTER OBLIGATION RATES

ELEMENT OF EXPENSE	FISCAL YEAR	LAST THREE MONTHS OF FY	LAST TWO MONTHS OF FY
Travel of Personnel	1990	31.0%	20.7%
Utilities and Rent	1989	0.5%	23.1%
	1992	52.4%	51.2%
Communications	1990	35.2%	5.2%
	1991	60.7%	38.7%
Purchased Equipment Maintenance (Commercial)	1991	46.6%	23.3%
Purchased Services	1991	27.5%	26.6%
	1992	66.5%	10.9%
Supplies	1989	69.8%	69.6%
	1991	25.1%	26.7%
Printing & Reproduction	1990	56.5%	47.8%
Equipment	1989	48.9%	34.9%
	1990	97.1%	19.4%
	1991	91.4%	80.9%
	1992	29.0%	20.4%

TRAINING, MEDICAL AND OTHER GENERAL PERSONNEL ACTIVITIES  
OMN FOURTH QUARTER OBLIGATION RATES

ELEMENT OF EXPENSE	FISCAL YEAR	LAST THREE MONTHS OF FY	LAST TWO MONTHS OF FY
TOT- Military Airlift Command	1991	84.6%	84.6%
TOT-Commercial	1990	41.6%	31.3%
	1992	65.6%	61.5%
TOT-Inland Transportation	1990	24.8%	20.1%
	1992	29.1%	23.8%
TOT-QUICKTRANS	1989	50.0%	33.3%
	1990	62.9%	59.2%
	1991	33.3%	16.7%
	1992	33.3%	0.0%
TOT-Other	1992	33.4%	16.3%
Ship POL	1992	35.0%	35.0%
Supplies	1989	30.7%	24.0%
	1990	30.6%	24.1%
	1991	29.9%	21.6%
	1992	30.3%	29.8%
Equipment	1989	53.5%	37.0%
	1990	68.3%	55.2%
	1991	48.9%	43.2%
	1992	55.5%	42.3%
Printing & Reproduction	1989	35.1%	19.4%
	1990	27.9%	21.0%

**ADMINISTRATION AND ASSOCIATED ACTIVITIES  
OMN FOURTH QUARTER OBLIGATION RATES**

ELEMENT OF EXPENSE	FISCAL YEAR	LAST THREE MONTHS OF FY	LAST TWO MONTHS OF FY
Travel of Personnel	1992	31.4%	21.7%
TOT-Inland Transportation	1992	40.0%	24.2%
TOT-Other	1989 1990	30.7% 43.6%	25.6% 32.0%
Utilities and Rent	1989 1992	39.1% 27.5%	1.6% 26.7%
Communications	1990	35.5%	23.0%
Purchased Services	1990	30.4%	12.1%
Supplies	1989 1992	1.2% 46.6%	83.8% 44.8%
Equipment	1989 1990 1991 1992	41.0% 76.5% 43.6% 67.7%	29.0% 67.9% 41.5% 54.2%
Printing & Reproduction	1990 1992	18.8% 32.4%	24.4% 19.4%

SUPPORT OF OTHER NATIONS  
OMN FOURTH QUARTER OBLIGATION RATES

ELEMENT OF EXPENSE	FISCAL YEAR	LAST THREE MONTHS OF FY	LAST TWO MONTHS OF FY
Travel of Personnel	1989	45.1%	36.5%
	1990	33.0%	18.9%
	1992	40.4%	33.1%
Purchased Services	1989	57.1%	-33.6%
	1991	34.1%	32.2%
Supplies	1989	40.9%	16.7%
	1992	63.2%	51.7%

SPECIAL OPERATIONS FORCES  
OMN FOURTH QUARTER OBLIGATION RATES

ELEMENT OF EXPENSE	FISCAL YEAR	LAST THREE MONTHS OF FY	LAST TWO MONTHS OF FY
Purchased Equipment Maintenance-Intra DoD	1989	38.6%	38.2%
TOT-Commercial	1991	33.3%	33.3%
Communications	1991	43.7%	37.9%
Supplies	1991	38.9%	31.8%
Equipment	1991	39.5%	33.4%
Printing & Reproduction	1991	22.4%	21.5%

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